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A JOURNAL
 DEVOTED
 TO BEES,
 AND HONEY,
 AND HOME
 INTERESTS.

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No. 14.

FROM DR. C. C. MILLER.

TWO MILLION colonies of bees in Germany, about one-third with movable combs.

WATCHING BEES working on linden, I found not one in 50 with pollen. Is that usual?

I HOPE Prof. Cook and those Germans will come to an agreement about honey-dew.

DON'T FORGET that, independently of any thing else, we want thick top-bars to make white sections.

BEE-KEEPERS' TOBACCO is one of the specialties advertised in German papers. I can't find it in A. I. Root's catalog.

SIR BENJAMIN WARD RICHARDSON finds, after long experiment and practice, that 64° Fahr. is the best temperature in which to conduct mental labor.

THAT GOLDEN-QUEEN fad is hard to resist, the bees look so handsome. I've some beauties of Doolittle's stock, but he says they're no better than three-banders.

"WHAT PROPORTION of bees less than 16 days old should be in a colony during clover?" is a query in *A. B. J.* Only four venture to give a guess, and they say 20, 50, and 75 per cent.

AN INTERNATIONAL FRAME "that would be accepted by all nations" is one of the things talked about in the foreign bee-journals. I'm afraid we'll never reach even a national one in this country.

POLLEN-CLOGGED COMBS in queenless colonies show how far wrong is the notion that queenless bees carry in no pollen. It also shows how large an amount of pollen must be used in a normal colony.

THAT FRENCHMAN at Hamilton, Ill., is still waiting for an answer to his conundrum. "Why should a larger hive be used for extracted than for comb honey?" Can none of us eight-framers answer him?

FOR CHAPPED LIPS, dissolve beeswax in a small quantity of sweet oil by heating carefully; apply the salve two or three times a day, and avoid wetting the lips as much as possible.—*Herald and Presbyterian.*

REEPEN objects to my plan of trying heredity from nurse-bees by raising queens from the same stock in a cross and a gentle colony, that the influence of the drones would interfere. You're right, mein Herr.

THAT PICNIC on clover that I told about in last *Straws* lasted about while I was telling of it. Now, July, empty combs in all my hives make me anxiously wonder what price Congress will make on September sugar.

IN AN ARTICLE about bees, in *Harper's Young People*, the writer gravely recommends the use of camphor to keep out moths which sneak into hives, "just as they sneak into seal-skin cloaks and woolen garments."

THAT OTHER TAYLOR, who runs the private experiment station in Minnesota, says, in *A. B. J.*, "What we need is not so much an improved strain of golden Italian bees as an improved "strain" of practical bee-keepers. [That's very true.—ED.]

THAT STUBBORN CASE, in which the queen stayed 28 days in the upper story without laying, continued 13 days longer, with the queen having full run of the hive, but not an egg, when I found her on the ground, as if having swarmed, and I killed her.

THAT VINDICTIVE GERMAN, Reepen, in *Centralblatt*, replying to the charge of cruelty in making little children learn such a hard language as the German, says all the stutterers in Germany became so by the continued vain endeavor to sound the English "th."

MY JOKES need labeling sometimes. Speaking of old bee-books, I said none were published in America before 1492. Now comes a grave statement in a foreign bee-journal, that the first bee-book in America was printed in 1492. 1492 isn't so familiar a date across the water as here.

A BEE-SHIRT is a desideratum. Light woolen is fine to work in, but bees sting it. There must be no wool, no starch, no dark color, and no soft or fuzzy surface. Linen would chill. Some hard preparation of cotton might do. Here's a field for you, brother Calvert.

CHARLES DADANT, in *Revue*, advises against giving a queen, or brood from which to raise a queen, to a colony of laying workers, without first giving a fair proportion of sealed worker brood. After this hatches, these young bees will be ready to receive or raise a queen.

REMOVING WAX or bee-glue from clothes. "Chill the wax that is in the clothes, in ice-cold water; and while the clothes are in the very cold water, the wax or glue will crumble out clean if the wax spots are rubbed or washed while in the water."—W. McEvoy, in *A. B. J.*

SCHACHINGER says his investigations show that, in a good harvest, for every pound stored by a colony of 20,000 bees, a colony of 30,000 will store 3 lbs.; one of 40,000, 8 lbs.; and one of 50,000, 12 lbs. According to that, one should aim to have strong colonies rather than many.

A SAMPLE of the hardened, impregnated paper queen-excluder is received from Robert Nitzsche, Germany. It looks nice, lacks the sharp edge of the zinc, and, although one would suppose the bees would gnaw it, he says it has remained perfect after a test of four years. But it costs twice as much as zinc.

WATER FOR BEES. Take a five-gallon crock, or other vessel; lay a piece of burlap over it; take two or three pieces of rotten wood, 6 to 12 inches longer than the depth of the vessel, and push the burlap to the bottom with them; fill up with water and throw in a handful of salt; and if started in time your bees will not bother the horse-trough.



GETTING THE HONEY CROP WITH 8 OR 10 FRAMES.

THE ADVANTAGES OF A LARGER HIVE.

By C. A. Hatch.

In GLEANINGS for June 15 the secretary of our State Association, Harry Lathrop, gives his reason for preferring 8 frames instead of 10, because he thinks he can gather the crop of his field in that hive better than otherwise. Singular as it may appear, I know of no better reason why he should use the ten-frame. He closes by asking what I would think of that phase of the question.

If I did not know Mr. Lathrop, and also know that he is one of the best honey-producers of

our State, I would hardly spend time to write another article on the hive question; but when one who makes a success of keeping bees comes to a different conclusion than another equally successful, it either shows that he is wrong in some of his conclusions or that the skill of both is what brings success, rather than the hive they use. I am inclined to the opinion that a good bee-master would succeed with either 8 or 10 frame hives, other things being equal. But the amount of honey secured, and the amount of labor expended to secure it, after all, is the point.

The product of a given field is such an uncertain quantity that what would require 100 colonies to gather this year might let 50 starve; so the only true way is for one to get as good a field as he can, and then manage to have as large a working force in the field as he can manage.

Bro. L. says, "Why is it not as well to work 150 colonies in 8 frames as to work 125 in 10 frames?" Which will swarm the most, Bro. L.? Does not every swarm make work? Is it not true, that the longer you can keep a colony from swarming, up to, say, the beginning of basswood bloom, the larger swarms you get, and the more honey, of course? for, more bees more workers, more workers more honey. I think no one will dispute the fact that the small hive will swarm first, and keep at it longest.

So far as caring for an eight or ten frame hive, I could never discover any practical difference. If a little ingenuity is used, there is but little lifting of full hives to do; so, in adding 25 colonies to your apiary you have added one-sixth to the labor of swarming-time, putting on sections, etc., while you have not increased your working force at all.

Let us suppose a case. Suppose your field will afford pasturage for 100 colonies in 10-frame hives. In the spring you set them out, and all are strong enough to occupy the whole hive, without any division-board or tucking up with the quilt. All there will be to do to them until about June 10, in our latitude, will be to clip the queens and see that there is plenty of honey in the hive. At the date named above, swarming will begin; each hive will have 8 frames full of brood, and plenty of young bees. But how would it be with eight-frame hives? You start with 100 in the same condition, and at swarming-time you will have, instead of 8 frames full of brood to the hive, only six frames, or a loss of 25 per cent, or 200 frames on the whole lot, which will require 33 eight-frame hives to make equal. But, you say, when the eight-frame hive needs more room, put another story on top, and have a two-story brood-nest. Does not that take time and work? and can you get the queen to go upstairs over top-bar, bee-space, and bottom-bar, and yet keep brood in both hives? If you can, you are

one trick ahead of me, for I can not. It is no trick to get her to go up; but how is it about coming down? How much real gain have you made by having the lower hive deserted?

I think one of the greatest failures of the Heddon hive is this very trouble. In theory, the small brood-nest to begin with was nice; but after a three-years' trial the bees continued to say, "No, we will not," and I had to give them up.

If the above has not convinced Bro. Lathrop, let him get 50 ten-frame hives, and set them alongside of 50 of his eight-frame hives, and see which takes the most time to do all necessary work, and which will give most honey.

Now for your footnote argument. The first paragraph, and part of the second, about lifting hives and enlarging by tiering up, have been answered; but as to cost, that is a small item when we think that a hive will last a lifetime with proper care; and suppose they do cost 10 cts. more each; if they are better, is not the money well spent? Economy is not in saving, but in using well what we have.

The next paragraph, about a ten-frame being too small for a large colony and too large for a small one, I do not agree with. We are talking about the best hive for the brood-nest, and, of course, a large colony must have surplus room according to its strength; and if my queens keep eight frames full of brood all the time, I call them "boomers." Wouldn't you?

You say bees will fill out sections better directly over the brood than anywhere else, and that Italians are apt to store honey in the two outside frames. Admitted. But will not the same management that gets brood on the two outside frames in the eight-frame work as well in the ten-frame? Are not bees apt to fill, or leave it if already full, one comb on each side, just as much in an eight-frame as in a ten-frame? But if left to themselves to build their brood-nest, just as the mother-bee wants it, will you not have eight frames in one hive against six in the other? and is there not one-third more brood surface to put sections *directly* over than in the other?

I do not know whether I get your real meaning in the next to the last point you make, about the eight-frame being nearer to the standard. If you mean by "standard" that more of them are in use, or that you sell more of them, that proves nothing; because the average man would take your word for it, and not try to prove for himself whether you were right or not. On this basis, the Simplicity was at one time the standard, and hence, by this line of argument, the best. This you will hardly admit, I think. I believe this question is one of economy of management rather more than increase of production.

Ithaca, Wis., June 25.

[You are quite right, friend H., in the opinion that a good bee-master would succeed with either eight or ten-frame hives, other things being equal; but *if* there is a difference, that same bee-master would succeed better with one than with the other, and it is important to know which is better.

In your supposed case of 100 colonies, you assume that there would be eight frames of brood in a ten-frame hive, and six in the eight. While we do not mean to dispute this, we simply ask, Is it true? We have just run across a number of our colonies in eight-frame hives, especially at our out-yard, among the bass-woods, that have brood in all of the eight frames. Now, we used to run an apiary of ten-frame hives, and, so far as we can remember, we do not think we then secured more brood in the ten-frame than we now do in the eight-frame hive. But there may be a difference in localities, and a difference in bees, and perhaps a difference in men in the way they look at the brood-nest.

Now in regard to getting the queens to go upstairs. We have experienced no difficulty if we drew one frame of brood out of the lower story and put it above with other combs. We have just been handling, personally, the colonies in our basswood yards. Some of them have brood in both stories of the eight-frame hive—yes, as many as 12 to 15 in some cases.

Yes, we think a ten-frame hive is too small for a large colony, and too large for a small one; but it is seldom that we have a colony that needs more than 16 frames of capacity room. During a large part of the year, it may be easily accommodated in one story of eight frames. In most of the apiaries we have visited, where ten-frame hives were used, we found a two-inch division-board used, not only *during* the honey season, but before and after it. The two-inch division-board is put in so the bees wouldn't put any surplus below, for eight frames are enough for brood; and, as you say, when they are all full of brood the colony is a boomer. Now, then, when the honey comes in, it has got to go above—that is, the surplus goes where we want it. Toward fall we find in these same apiaries the colonies still on eight frames, and sometimes less, to conserve the heat—that is, to give the bees just room enough without being crowded; and in winter it is certainly an advantage to have the brood-nest no larger than is absolutely necessary. Our colonies can always be accommodated in winter on eight frames, and sometimes on six. This was true when we were using exclusively ten-frame hives in our apiary; and even now, when we are using the eight-frame exclusively, the same condition seems to exist. Yes, the bees do fill out sections better directly over the brood; but when we used ten-frame hives and ten-frame supers, at least one outside row of sections was behind the other rows; and before we adopted the eight-frame hive we put in the division-boards and secured better results in filling out sections, using eight-frame supers. The point is here: The ten-frame hives, so far as we have observed in the apiaries we have visited, are apt to have two-inch division-boards in a greater part of the year. Here is a waste in having the hive too large, and in the cost of the extra thick division-board to reduce it down again to eight frames. If this capacity is large enough, why not, when we are starting anew, use the smaller hive?

You will remember that we once used and strenuously recommended the ten-frame hive; but the pressure seemed to be so great that we adopted the eight-frame. Formerly, with us, the ten-frame seemed to be the standard, and now the eight-frame is; and why? We will

admit that one of the reasons is because we recommended it, and that the majority do as we indicate; but in turn we are influenced by the preferences of some of the best and most successful bee-keepers for the eight-frame, and we decided it was better to follow their advice.

Now, we are not prejudiced in favor of one hive over the other. We desire to be on the right side, or, more strictly speaking, to recommend that hive which will suit best the needs of the mass of bee-keepers with whom we deal. It is a fact, and we presume it is true that our customers will follow largely our recommendation; and the responsibility is a great one, and we therefore desire to view the matter as candidly and fairly as possible.—Ed.]

EGGS.

DO BEES TRANSPORT THEM? AN INTERESTING CASE.

By J. A. Golden.

I notice in GLEANINGS, page 506, that Willie Atchley makes an attack on Rambler as well as on all who advocate the theory that bees do carry eggs and deposit them in cells for the purpose of rearing queens; and in his argument, with his close observation, he gives quite a convincing proof that his theory can not be successfully disputed; but after he has heard from quite a number of close observers of bees, who have observed their peculiar freaks, he perhaps may come to the conclusion that he is wrong in speaking with such strong language as he does when he says that bees *never* carry eggs from one cell to another, nor to any part of the hive, nor anywhere else, for that matter, and deposit, in view of rearing a queen; and to satisfy Willie that he makes a mistake we will call his attention to this one case:

Three years ago I had two colonies of black bees. I was introducing Italian queens, having at the same time a queenless Italian colony badly infested with fertile workers, which killed two queens as soon as they liberated them from the cages. So I concluded I would cage one of the black queens taken from one that I was introducing an Italian queen to, and hang it in the hive two or three days, and then see if I could introduce her to the fertile-worker colony. Having made a hole in the wire cloth over the cage, so a worker-bee could get in, I suspended the cage between two frames, and covered the hive up. Some ten or twelve days afterward Mr. C. C. Eddy called to see me, and we went into the bee-house. The thought suddenly occurred to me in regard to the queen that was suspended in the fertile-worker colony, having entirely forgotten the matter. We then opened the hive, and, what do you suppose we found? Well, Willie, we found two patches of brood and eggs around that queen-cage, nearly as large as one's hand, and two queen-cells nearly ready to cap over; and, on examination, lots of eggs were observed around the inside of the cage. The queen was three years old, and was killed, and queen-cells destroyed, and an

Italian queen introduced and accepted. In due time the brood hatched that was thus reared, and were the regular native (or German) bee, the same as the queen. Then when the eggs from the queen introduced hatched, they proved to be satisfactorily three-banded.

Now, Willie Atchley, please tell us where those eggs came from, if the bees did not carry them from the caged queen and place them in those cells, as above stated. J. A. GOLDEN.

Reinersville, O., June 25.

[If we remember correctly, there have been reports in GLEANINGS, saying that bees do actually move eggs from one part of the hive to another, and a large amount of circumstantial evidence to the effect that bees at times, when queenless, and reduced to the last extremity, will steal an egg from another colony, with which to rear a queen; but we do not remember that we have ever had a report before, where a queen deposited eggs anywhere else than in cells of comb. We have sometimes seen eggs drop from a queen in the height of her laying season, as she walked over the combs; we have also seen bees pick them up; but what they did with them, we do not know. We shall be glad to receive reports from others, especially on this point as to whether bees will at times take eggs and put them into queen-cells. The theory that Willie Atchley advances may account for some of the phenomena noticed in the hive; but we do not believe we can safely say yet that bees do not actually take the eggs and deposit them in cells under circumstances, at times, that may seem extraordinary.—Ed.]

THE TARIFF.

WHY THERE SHOULD BE A PROTECTIVE DUTY ON HONEY; A STRONG ARTICLE.

By H. F. Moore.

I can not forbear replying to the free-trade doctrine advanced by friend W. G. Hewes, on page 505, of June 15th issue of GLEANINGS. I have a most friendly feeling toward all readers of GLEANINGS, and I can not bear to think such ideas should go unchallenged to your 50,000 readers, many of whom may have no opportunity to investigate the matter for themselves.

Friend Hewes takes issue with Mr. Elwood in his attack on the proposed reduction of duty on honey by the Wilson bill. He says the California prices are governed entirely by the good or poor crop in California. As a matter of fact, doesn't Mr. Hewes know that carloads and carloads of California honey are shipped to Chicago, Indianapolis, New York, and other cities east? that the price the first carload brings furnishes a standard of valuation for the next ten carloads furnished? Does friend Hewes know that tons of cheap honey are used in Mansfield, Cleveland, and Cincinnati, O., in cake-baking? in all these cities in the manufacture of tobacco? and in Chicago in making bedbug poison? It is well known to all well-informed people that the larger part of the value of any given article is composed of wages of the labor that produced it. This is no less

true of honey than any other product of the United States. This being true, what protection have we against the products of nations where labor receives one-half to two-thirds the wages paid for similar work in the United States? I say we have no protection but the tariff of 20 cents which the McKinley law levies on every gallon of honey brought over the border. Friend Hewes laughs at the idea that there is lots of honey waiting to be dumped upon our helpless bee-keepers. But this is nevertheless a fact: Cuba can produce 4 gallons of honey at the cost of one gallon in the United States, both by reason of more favorable climate, and cheap and even slave labor; and even now, with 20 cts. a gallon duty, she sends shiploads of honey to our shores. In proof of these observations, let me remind you that, in the fiscal year ending June 30, 1894, 97,706.29 gallons of honey were imported into the United States. This honey was valued at \$43,590.85, or 45 cts. a gallon; add to this a duty of 20 cts. per gallon, and you have a price of 65 cts. per gallon set you by foreigners for your honey, whether you have large or small crops of it in California. Here, under the McKinley law, you see only \$63,132.10 taken from the laborers and bee-keepers of our country. This is but a small sum to be lost by the large number of bee-keepers in America; but suppose this duty of 20 cts. a gallon were reduced to 10 cts. a gallon, as proposed by the Wilson bill; does any one doubt that the importation of honey would be increased ten times during the following 12 months, and the loss to American bee-keepers be half a million dollars yearly? Let us look these things in the face squarely, and not be blinded to the facts.

The small number of Americans raising honey on Mexican soil is not to be considered or weighed against the large number of resident citizens of the United States who would be injured irreparably by free trade.

Friend Hewes says that "when any country produces a large surplus, England and not New York is its destination." Let us examine the facts. The *New York Tribune* is authority for the statement that "the railroads of the United States in 1889 carried \$13,930,587,840 worth of freight, not mentioning that carried by water. More than 92 per cent of this was consumed in the United States." The total value of the imports of Great Britain and 33 other leading nations was only \$6,050,468,409, or less than half the value of the freight carried on our own railroads. The leaders in Parliament have recognized this as a fact, that our market, the United States, is the best in the world. Mr. Edward Atkinson, the eminent statistician, in 1890 published figures and tables in Bradstreet's, which show that, while our home trade amounts to 50,000,000,000 annually, our foreign trade amounts to only 1,600,000,000, or less than 3½ per cent of our home trade. Our Newhall

friend seems to lose sight of the main question in his discussion of free trade. The burning question of the day is the same as it has been for the last hundred years; viz., shall American manufactures prosper under protection, or be destroyed under free trade? for this is the declared policy of Great Britain toward our country, Lord Brougham declaring, in the House of Commons, in 1816, "It is well worth while to stifle in the cradle those infant manufactures in the United States which the war has forced into existence, though we may incur a heavy loss on our first exportations in the effort so to do." In pursuance of this policy, England has poured goods into our markets far below cost; bought and slaughtered great numbers of sheep; bought our best machinery and shipped it off to England; hired our best mechanics, to get them away from us, solely to hinder and destroy our existing and prospective manufactures.

Friend Hewes arraigns our manufacturers because, forsooth, he is taxed to support them. How contrary this assertion is to the facts! Free-traders have been using this same phrase for a hundred years—"The tariff is a tax, and is paid by the consumer." Under free trade, steel cost us \$107 a ton. Then when a duty of \$28.00 a ton was imposed in 1870, according to our free-trade friends the price should have been \$135 a ton. But as a matter of fact the price has constantly declined to \$30 a ton, or even less. Take the case of steel nails. In 1882 we manufactured very few steel nails, duty 1 ct. a pound; price 8½ cts., all imported. In 1883, duty increased to 4 cts. a pound; price should be 8½ plus 3 = 11½ cts. a pound, according to our free-trade friends. As a matter of fact, the price declined to less than 2 cts. a pound, and in 1890 we produced 3,900,000 kegs. Will friend Hewes tell us what manufacturer he was taxed to support when he paid 2 cts. to 3 cts. a pound for steel nails, even in small lots, when, under free trade in 1882, the price was 8½ cts. a pound?

The English price of calico is 5 to 7 cts. a yard. The duty is 100 per cent. According to the free-trade theorists, the cost to the American consumer should be 10 to 14 cts. a yard; but it is only 5 to 7 cts. a yard here to the consumer, and sometimes less.

Similar illustrations almost innumerable might be given; but, enough. Many readers may desire to know why these things are so. The principal reasons are as follows:

First, our American market is the largest and the most diversified of any on earth, and it is the market the nations of the earth seek to obtain and control.

Second, under free trade, American capital fears to invest in great enterprises, employing thousands of men and paying tens of thousands of dollars in wages, in view of the fact that foreign manufacturers will spend dollars like

water for the express purpose of destroying American enterprises; for they have done so in the past, and such is their publicly avowed policy toward our country.

But, you say, if the British factories reduce their prices, will not the American consumer be benefited? No, for two reasons. 1. The reduction is only temporary, until American enterprise is out of the way, when steel, for instance, will go up to \$107 a ton as before, instead of \$30, as under protection; 2. The price we pay for articles of consumption is a small matter compared to the importance of steady work for our people at fair wages.

Let me ask friend Hewes why such widespread paralysis of trade, manufactures, and business occurs in 1894. It is because the *free-trade* party is in power. It is because the people know their record; it is because American manufacturers, fearing free-trade measures will be enacted by the party now in power, refuse to run their mills, and put out the fires in their furnaces all over our land; it is because our people know that the result of free trade would be to flood our country with the products of foreign labor; a suspension of our own manufactures of all kinds; a gradual loss of our specie, sent to other countries to pay for these foreign goods; a necessary stoppage of most of our business for want of circulating medium; idleness of laborers and artisans; universal debt; depreciation of real-estate values; inability on the part of nearly everybody to pay their debts. These results are not mere theories of a diseased imagination—far from it. They are the teachings of history. Witness the first free-trade period—that preceding the adoption of the Constitution, when, during 1771, our imports exceeded our exports by 13,750,000—an enormous sum in those days.

Witness the second free-trade period—1816–1824, of which Horace Greeley said, “Our manufactures went down like grass before the mower, and our agriculture and labor speedily followed; financial prostration was general, and debt universal.”

Witness the third free-trade period, 1833 to 1842, during which money was so scarce that, in some parts of Pennsylvania, people divided bank notes into halves, quarters, eighths, etc., from necessity, and goods sold at sheriff's sale for cents, that were worth dollars.

Witness the fourth free-trade period—1846 to 1861, against which legislation the great Daniel Webster made one of his greatest speeches, running through three days—July 25 to 28, 1846, and said, “You indulge in the luxury of taxing the poor man and the laborer! That is the whole tendency, the whole character, the whole effect of the bill. It is not a bill for the people or the masses! It is a bill for the relief of the wealthy classes, and takes away the means of living from labor everywhere.” The *New York Tribune* reports that, in January, 1855, thou-

sands of people in New York depended on charity and soup-houses.”

Look at the sum of fifteen hundred million dollars that was paid to labor in 12 years, 1878 to 1890, in the steel industry alone, under protection; look at the wonderful prosperity of our country from 1861 to 1891—the growth of our manufactures—the hundreds of millions of money during these 30 years, paid our workmen, and then say, if you dare, in the light of history, in the pressure of such facts, that free trade is good for our country.

Chicago, Ill.

RAMBLE 112.

HOME APIARIES.

By Rambler.

In past rambles I have intimated that the home apiary, even here in California, was more attractive, oftener visited by the apiarist, and kept in better condition generally, than the apiary in the distant foot-hills. There are exceptions to the rule, however; and many times the out-apiary is nicely arranged, pleasant to look upon, and it is a pleasure to work therein, while not a few of those near the dwelling have as ragged an appearance as the most forlorn specimen in the foot-hills; and I find it makes but little difference where the apiary is located; for if the owner is an enthusiast at his calling, his apiary is always in a neat condition; but if the bees are looked upon as so many factors of the almighty dollar, and are only hastily visited in order to rob them of their surplus stores, the apiary is liable to be grossly neglected, even if located near the owner's doorstep.

It happens sometimes that the enthusiastic bee-keeper gets deep into the fruit-growing industry, and this encroaches so much upon his time that the bees are neglected; and if they do not succumb to natural causes, they are finally sold. The cultivation of fruits also gives employment all the year round. These little farms are seldom less than five acres in extent, and usually not larger than twenty; but occasionally they are found containing a hundred acres or over, and the work upon them requires a large number of workers, both old and young, male and female.

The would-be fruit-rancher comes to grief many times through the purchase of his little upon the credit system. While the little trees are slowly growing toward maturity the interest is also eating into the resources of the purchaser; and, without capital to tide over until the trees begin to bear, the purchaser may lose a few years of toil and some of his precious hard-sought earnings. The fruit-grower suitably situated can keep bees and grow small fruits, which, with ordinary seasons, give an income from the start, and have in many cases



APLARY AND EMBRYO FRUIT HATCH OF WALTER CHOATE, NEAR BLOOMINGTON, CAL.



APIARY OF MR. WILLIAMSON, OF RIALTO, CAL., UNDER ENGLISH-WALNUT TREES.

tided the fruit-grower over many hard corners. The loss sustained by many making purchases without sufficient capital, or a business to back them up, has led many to remark, with bitterness, that California is no place for a poor man. Still, there is now and then a poor man here, and there are perhaps a few poor bee-keepers; and the chances for the latter for a good start are better than for the poor man who invests simply in a fruit-ranch. The bee-keeper is reasonably sure of returns from his bees at least three years in five, with at least one heavy yield in that time.

To give your readers an idea of an embryo California fruit-ranch I obtained a photo of

over 100 acres of fruits recently planted—peach, apricot, grapes, almonds, and oranges, owned by Mr. Walter Choate, of Bloomington, Cal. For the first few years constant tillage is required; and in due course of time the beautiful orchards will cover the whole area. Mr. Choate, as will be seen in the foreground, wisely continues bee culture with the fruit; besides which he is purchasing agent for the Cutting Fruit-cannery, of Colton and San Francisco. Mr. Choate has a very convenient honey-house, and is somewhat in advance of his neighbors in having an air-tight room in the honey-house, in which to store extracting-combs, and where they can be sulphured. The absence of this



RIVERSIDE AND ITS ORANGE-GROVES.

convenience in many other apiaries results in the destruction of many valuable extracting-combs by the moth-miller, in this semi-tropical climate.

Another very important element toward success that Mr. Choate has added to his home since the Rambler first knew him is a helpmeet; and very recently a baby's vocal powers resound under the thrifty-growing eucalyptus and pepper trees that are seen around the cottage and out-buildings. Mr. Cox, who manipulates the team, is also quite expert at the bees; and when the multitude of cares engross the thoughts and time of the owner of the ranch, Mr. Cox is a never-failing remedy.

Another very cosy home apiary is owned by Mr. Williamson, in the adjoining town of Rialto. The English walnut is a tree of noble habit, and the broad-spreading branches of a large orchard of them make a delightful place for an apiary—shady for the bees, and for the highest comfort of the apiarist during the hot months of his work. Mr. W. believes in painting his hives in nearly all the hues of the rainbow; for what reason, he said not; but it is to be supposed for the proper guidance of the bees or the young queen to the proper domicile. Mr. W. keeps the weeds and grass down to proper length in his apiary by pasturing in it his all-work horse. When asked if his horse ever got stung, he smiled audibly, and remarked, "Laws sakes alive! More than forty bees sting him at once; but he kicks and rolls, and gets rid of them, making things lively for the time being." From the way many of the supers fitted upon the brood-chambers, one might judge that the horse went around and kicked a great many hives. Mr. W. rented his apiary for this season to Mr. M. E. Osborn, of Petersboro, N. H. He put things to rights, and did much work through the early months of the season; but when the prospects shut down with such a gloomy aspect, Mr. O. folded his best clothes in his trunk, and returned to the cold hard climate of New Hampshire. Mr. Osborn, however, had other views concerning New Hampshire and California. The cool nights chilled Mr. O. to such an extent that he often remarked that he was going to leave semi-tropical California to get warm in old New Hampshire; but it will not be strange to see Mr. O. and his family residents of California ere many years go by.

Home apiaries have been on the increase among the orange-groves of beautiful Riverside. The poor prospects in the surrounding foothills have caused the owners of apiaries to move them to their own vine and orange-tree, and, as a consequence, one might suppose that the pasturage spread by orange-trees would be overdone, and probably was; for the very best colonies secured only one or two cases of honey, where several should have been secured. Thus bee-keeping is having its ups and downs in

this State, as well as in others. All is not gold that glitters in the sand-hill; and though California can not be strictly in for a yield of honey this year, we have still strong hopes for the future of the industry here. Having a poor season to contend with, and time to look around for better fields, the Rambler and Mr. Wilder, at this writing, are setting out upon a trip of over a thousand miles. This will be performed in a camping-outfit, with camera, pencil, and gun. The results will be duly recorded by the

RAMBLER.

CHEERING NEWS FROM CALIFORNIA.

BEES AND FRUIT—NO FURTHER TROUBLE.

By J. P. Israel.

Friend Root:—Prof. Cook, in a late number, asked the opinion of experienced bee-keepers as to the advisability of producing comb or extracted honey. He is evidently on the extracted side of the fence, for he speaks of the danger of shipping the comb and its liability to break down. I have been producing comb honey here for twelve years. I have never shipped any east. I let others take the risk of that. I never have produced a crop that I did not get ready sale for at fair prices—cash down. Don't be afraid to produce nice comb honey—it is always cash.

A producer in a black-sage country should by all means produce comb honey, provided he does not have too far to haul it in a wagon. He should do this, because all black-sage honey is *white*. Where his flora is mixed he can make no pure white honey, therefore he should extract.

Prof. Cook is going to be a power for good in California. Already he has begun to establish an influence over the fruit-producers. But fruit-men are getting their eyes opened—opened by sad experience. Negotiations are now going on in a certain section of Fresno Co., to plant 1000 acres of black sage. This will be done by a company, or combination, of large fruit-producers. This sage will be scattered along the foothills—about 100 acres in a patch—five miles apart. Thus you see its benefits will reach a great many orchards, which in turn will pay back in nectar for the labor of the bees. These tracks of black sage will be irrigated and will yield floods of honey every year.

"How can we manage our bees so that our neighbors may not be harmed or even annoyed?" asks Prof Cook. The question, plainly stated, is, "How can the fruit-men dry their fruit and raisins without annoyance from the bees?" It is very simple. Let them *cover their fruit with cheese-cloth*. Fruit will dry in half the time that it will uncovered, and it will be much brighter in color, and much sweeter. It is being so long exposed to the sun and air that turns fruit so dark in color. It will pay

the fruit-grower to dry under cheese-cloth, if there were not a bee within a thousand miles of him. As a protection against the bees, it is a complete success. Raisin-trays are 2x3 feet. Run them end to end, and they make a row 2 feet wide. Your cheese-cloth is 3 feet wide, and you have plenty to tuck under each side of the trays. Woe unto the bee or yellow-jacket that gets under that cloth! It dies within three minutes. This is after the honey season, and does not injure the bee-keepers.

FRIEND HEWES CORRECTED.

I was astonished at the statement of average yields of honey, made by friend Hewes, on page 374. He gives 35 lbs. as an average yield in this State. Why, friend Hewes, in 1884 I got nearly 19 years of your average yields from each hive—see GLEANINGS for 1884. There have been several good seasons since, so that I have got about 35 years of your average yields in the 12 years that I have been at the business here. If friend Hewes is entirely too low, the others are wild the other way. I should say 100 comb and 150 lbs. extracted is not very wide of the mark. There is only one thing I have against Bro. Hewes. He did not explain what he meant by a "tenderfoot." Some of our eastern friends might think it a reflection on his moral or intellectual character. But it is nothing of the kind. We only mean that he doesn't know any thing. I know many kind-hearted men who keep their cattle in pens of 50 to 500 acres, for fear they might mistake a tenderfoot coming along the road for a bundle of green hay.

Escondido, Cal., June 11.

QUEENS CRAMPING.

NOT DUE TO THE CATCHING OF THE FEET.

By Wm. Muth-Rasmussen.

As this subject is under discussion I will relate a case that came under my observation last year, and which was much more severe than any other I have ever heard or read about.

About July 1st A. I. Root mailed me a select tested Italian queen. She arrived late on the following Friday evening. I did not open the cage that night, but put a few drops of honey and water on the wire cloth, so that the bees could help themselves; and as a precaution against ants I placed the cage on a saucer inverted on a plate filled with water. Early the next morning I again fed the bees with honey and water, and after breakfast I opened the cage. As soon as liberated, the queen flew in front of a screen door, showing that she was all right. I then clipped her in the usual manner, and as I have practiced clipping for years. I am certain that I did not injure her. I placed her back on the door-screen, and, while I was laying the scissors away and reaching for the cage on an adjoining table, she dropped to the

floor. I thought it only a mishap, and, putting her into the cage without any bees, I started for the hive prepared for her. I had gone only a few steps, however, when I saw her tumble over, like a drunken man. Returning to the house to ascertain what the trouble was, I dropped her out in my hand, where she lay on her back, pawing the air with all six legs, and frequently doubling herself up. I looked particularly to see if any of her feet were fast anywhere, but they were all free. At times she would lie quite still, as if dead, and then start in kicking again, all the time lying on her back or side. Most of the accompanying bees had escaped when I opened the door; but, two had flown to the window. I put these into the cage with the queen, in the hope that they might help her. She lay thus from breakfast time till 4 o'clock in the afternoon, when she commenced to straighten out a little. At 5 o'clock she was able to stand up, but could move only with difficulty, frequently falling down. Next (Sunday) morning she was running around in the cage, as lively as ever. I then introduced her to the colony prepared for her, and did not disturb them for two or three days, when I found her liberated and laying.

On the doorsill, to which the queen dropped, was a little insect powder (buhach), which had been sprinkled there a couple of days before to kill ants that were coming into the house. I presume the queen got the cramps while she was on the door-screen, and that this caused her to lose her foothold. Whether the insect-powder had any effect on her or not is an unsolved question. It generally loses its strength soon after being exposed to the air, and in this case had been lying there and tramped over for a couple of days.

Fearing that the queen might not live, and desiring to replace a lot of old queens, I sent immediately for another, which came in due time, and was clipped and introduced without any mishap. I reared over forty young queens from these two, the same summer, and both are to-day mothers of prosperous colonies.

ROBBER-TRAP.

I was one of those who wrote to friend McIntyre about his robber-trap. He kindly gave me by letter a brief description. To avoid boring holes in any of my hives I made a little alteration in the arrangement. A triangular piece of wire cloth, about 11 inches long on each side, was folded in such a way as to make a shallow triangular box, $\frac{3}{8}$ inch deep, having two of the sides provided with $\frac{3}{8}$ -inch-wide flanges, turned out at right angles to the sides. The third side is open; but a similar flange is turned out from the bottom edge of the box. This wire-cloth box I placed upside down in an empty hive with fast bottom. The open side covered the entrance, which is six inches wide in my hives, and the three flanges were fasten-

ed with tacks to the bottom-board and to the front of the hive, over the entrance. In the corner of the box, opposite the entrance, I made an opening for the robbers to pass through. The cover was made similar to McIntyre's, except that I hinged it at one side and secured it with a hook at the opposite side. I used unfinished sections from last year as bait. The trap worked all right.

Independence, Cal.

A KILLING HOT WAVE.

MRS. ATCHLEY LOSES NEARLY ALL HER NUCLEI.

By Jennie Atchley.

Dear Mr. Root:—I have just finished reading GLEANINGS for July 1: and after reading your talk about the condition of the country to several persons they exclaimed that we needed a whole lot more of such men as A. I. Root.

Now I have something sad to report to you. We have lost nearly all our nuclei, and came very near losing our lives. It turned so hot last Monday, the 2d, about 11 o'clock, that water came very near the boiling-point in the shade. Our bees were cooked, just as if the hives had been on fire. All the strong colonies were uninjured; but the largest part of our nuclei were badly damaged or killed outright. Shade made no difference. The more the wind blew, the hotter it was. The thermometer registered 114° in the coolest place about the house. Chairs and all the furniture, and, in fact, every thing, would burn to touch it. From noon till midnight we had to keep the hose running, spraying the house, beds, and furniture, and constantly giving water to the children and family, to keep down suffocation. There was no place to seek refuge from the heat. We did not know the extent of damage to our bees till all out-yards had been visited. The bees were burned, and as brittle as could be; the honey boiled, and the combs melted. The wax and honey, with the bees, were on the bottom-boards. This, I know, seems fishy; but it is all true. See this clipping from the *Beeville Bee*:

Monday was, perhaps, the hottest day Texas has experienced—at least for several decades, and Beeville was, without a doubt, the hottest place in Texas that day. In many places in different parts of the State the thermometer went up to and a little above 100; but in Beeville, about 3 o'clock, it registered from 110 to 115. Old settlers say it beat any thing they ever experienced in their lives. The wind was from the southwest early in the morning, but gradually varied to the north, and by noon it was blowing directly from that point of the compass. The intensity of the heat began to increase very rapidly then, and between 3 and 4 o'clock it seemed as if the whole sphere would ignite from spontaneous combustion. Water in the shade would almost blister one's hand, and every thing touched seemed as though it had been near a furnace. The gentle zephyrs were apparently turned into flames from that region where they say the inhabitants are never troubled with the laborious task of shoveling snow. Faces were blistered, and it appeared as

though the green foliage of the trees would be badly scorched to its autumn color. It was after midnight before the atmosphere cooled enough to be more than barely perceptible. By morning, however, the wind was coming from the southeast; and while Tuesday was pretty warm, it was nothing to compare with Monday, which everybody agrees in saying was the hottest day in their experience.

We shall try to use our full colonies to start up our nuclei again as soon as possible. We have about 100 untested queens left, out of the whole of three large yards, that we hope to keep our customers supplied with till we get more raised. If the next day had been as hot, I do not think we should have had any bees left; and probably stock and people would have died, as people who did not have water facilities to hold the temperature down had their faces blistered.

Beeville, Texas, July 9.

[The winds mentioned in the above are comparatively common in California. I did not know, however, that they occurred in Texas. In the vicinity of San Jacinto many apiaries had a tight board fence on the north side in order to cut off the hot winds from the Mojave Desert. I laughed at them for shading their hives on the north, when the sun was in the south. They said these hot winds were far more to be feared than the sun itself; and that at times, if this hot wind struck a bee-hive, it would melt the combs down and eventually destroy the colony. We sympathize with our friends at Beeville, and trust that such things do not happen very often. The hottest winds are said to sweep down from Death Valley, and it is very likely the terrible heat that gives this valley its name.]

A. I. R.

THE DUMB-WAITER.

FULL DIRECTIONS FOR MAKING ONE FOR HOME PURPOSES.

By Stephen Luther.

Friend Root:—In GLEANINGS for 1891, p. 264, Mr. Stewart describes a dairy well. In your remarks you say you wonder why somebody did not invent a dummy, or elevator, to run provisions into the cellar. In 1890 I built such an elevator; and it is such a satisfaction to my family, and as I am a constant reader of GLEANINGS, and have not seen any thing pertaining to such an article since, I concluded to send a description of mine.

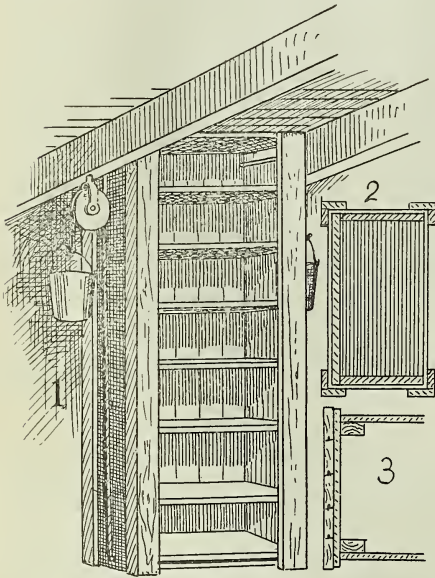
To make it I commenced by sawing out a piece of floor the size I wanted for cupboard (14x25½ inches). I then took 2 pieces of narrow studding, 14 inches long, and spiked, or toenailed, fast at each end, to the joists under the floor, placing them ⅓ of an inch below the floor and projecting into the hole ¾ of an inch, for projections that are on upper end of the cupboard to rest on.

There is a board 8 inches wide nailed to the under side of the joists at each end of the hole, in the right place to fasten guides to; also to hang pulleys to. No. 3 shows upper end of cupboard, and the way it is constructed. The cup-

board is merely a plain box, open on the front side, having cleats nailed on the insides, at proper distances apart, for shelves to rest on.

The strips across the sides in the upper corner of the cupboard (inside) are 3 in. wide (Figs. 2, 3). These strips are nailed solidly to the sides of the cupboard, and bolted to the top of it; two $\frac{3}{8}$ bolts, 4 inches long, are used in each strip. This makes a solid joint to stand the jar of going down suddenly. The end of the board at the top of the cupboard projects $\frac{3}{8}$ inch at each end (Fig. 3), and $\frac{1}{4}$ in. on each side, and the floor-cut out is replaced, as finished, on the top of the cupboard.

When the elevator is down, the floor hardly shows any division, having been cut with a fine saw. A ring and staple through the center, at top, serve to pull the cupboard up with. The projecting edges at the top of the cupboard



should be beveled at the lower edges, so as not to strike the floor. The frame or guide (shown in No. 1) in the cellar is made by taking 8 strips of board, 4 of them 2 inches wide, and 4 of them 3 inches wide. The wide strips are nailed to the edges of the narrow ones, making the V-shaped or three-cornered trough, the lower end of which is shown in No. 2. No. 2 shows the bottom of this frame, which is to keep the cupboard from swinging out at the bottom. A board, the size of the hole in which the cupboard is to slide, should be fastened between the guides at the bottom, and should be 2 inches farther from the floor above than the length of cupboard. This is to make sure that the cupboard-weight rests on the studding which has been spiked to joists above. The frame, when done, should lack 2 feet of reaching the cellar

bottom, to keep rodents out; or a screen door may be hung on a frame.

No. 1 shows the cupboard below the floor. My cupboard is $23\frac{3}{4} \times 13\frac{1}{2}$ inches, and 7 feet long, being smaller by $\frac{1}{2}$ inch one way and $\frac{1}{4}$ the other than the hole it slides in. You see I have large hay-fork pulleys, and use only one on each side. But unless the diameter of the pulley is a little more than $\frac{1}{2}$ the diameter of the weights, you must have two on each side to prevent the weights from rubbing the ropes or side of the cupboard. My weights are old pails of gravel. They must weigh alike or the cupboard will not run true; and they must be heavy enough to balance the cupboard and its contents. My elevator is in my pantry; but one may be in the kitchen or dining-room. The women-folks wonder how they kept house without one, especially in hot weather. It saves much running down cellar.

Fairview, Pa.

[We have a dumb-waiter in our house, and during the summer our women-folks find it a great convenience. Ours is made on much the same principle, only we use dumb-waiter pulleys such as can bought at the hardware stores. If the waiter is not too heavy, window-pulleys such as are used for supporting windows may be used.—Ed.]

DOCTORING WITHOUT MEDICINE.

A PLEA FOR MILK, COMING FROM AWAY OFF IN OKLAHOMA.

By an Old Subscriber.

Dear Friend Root:—I have read GLEANINGS since your first number was sent to the public. I have been greatly interested and benefited by reading what you have written during these many years that have gone with all else in the past; but in your issue for June 1 you let pure sweet milk fare so badly that I can not longer remain silent. I reply, however, in a proper spirit, and harm can not obtain. You are generally right; but for once you are wrong. Milk is nature's first food for man, and no physiologist has yet discovered a place in normal man's journey through life at or beyond which milk loses its value in man's diet. Moreover, it is equally true that we know of no proper substitute for milk. Milk contains all the elements necessary for the development of the youth; and if the adult man is not possessed of a depraved appetite, milk will continue to supply every nook and cranny in his body with material for the reparation of the wastes going on. In many instances human life is sustained indefinitely by the use of milk. If an adult has worshiped at the shrine of modern civilization (I should have said modern dissipation) until nature has been forgotten by some of the organs in his being he will not find so much satisfaction from the continued use of milk in every instance. The human body has been analyzed, and the many simple elements contributing to its normal con-

dition are known; and when, from any cause, any number of these elements are wanting in quantity or quality, the body is diseased, and we should furnish what is lacking, whether it is to be found in a pineapple, a drugstore, or in a glass of milk. We thus assist nature, while some one else steps in between nature and nature's work in some other case, and does lasting injury to generations yet unborn while trespassing upon nature's own.

Milk did not make you bilious. You would have been bilious without milk, and the pineapple would have done you as much good had you drank milk the same day.

Otoe, Ok., June 8.

[My good friend, I am not going to try to argue against you at all. I hope you are right, and I am trying to believe you are wholly so. After dropping the milk diet, my strength began to fail, just as I expected it would, and in a few days I resumed the milk again. The bitter, unpleasant taste in my mouth came back; but it was right in strawberry time, and I discovered among our luscious berries one that takes the place of the pineapple beautifully. It is the Warfield. We once discarded the Warfield, but this year one of my old plantations that I had intended to plow up gave such a bountiful crop in the early part of the season that I reversed my decision. The berries this year are larger and more luscious than ever before; and, strange to tell, I discovered that the sprightly sub-acid Warfield was just the thing to make my mouth sweet and pleasant. Now, I did not go and pick a great lot every time I felt that taste; but I just took a few nice ones, say a dozen. This seems to neutralize and banish the unpleasant taste. If I understand you correctly, we do not need to abate any of the milk in our diet; but we want to find something else that nature furnishes (in the shape of luscious fruits, for instance) to go along with the milk. Just think of it, friends—the latest medicine for sweetening the breath is "Warfield strawberries"!] A. I. R.

THE USE OF LIME-WATER FOR DYSPEPTICS.

Dear Friend Root:—I have just finished reading GLEANINGS for June 1. I am more pleased with each number. We look for it more than all the other periodicals or papers we take. I am much interested in your experience writings, and hope you may live long to continue them. I too am a dyspeptic, a little nervous, getting along in years. I almost live on milk, and find it more agreeable with the addition of a little lime-water. In fact, I can hardly eat my evening meal of bread and milk without about two table-spoonfuls of lime-water.

I feel that I owe you much. Through you I "keep bees," and am much benefited thereby. Your sermons in GLEANINGS are strong and helpful. May God give you health and strength to continue them long. A FRIEND.

Abilene, Kan.

[My good friend, I thank you especially for your suggestion—the more so as it recalls something I have felt ought to be in GLEANINGS. It is this: Some years ago a dear friend of mine had a sudden attack of some difficulty with the stomach, rendering it impossible for him to take

any kind of food for many days. The best physicians were summoned, and they feared he would starve to death in spite of any of the ordinary means of affording nourishment. He at length got some better; but the trouble was pronounced incurable, and he was told that he had not long to live. However, he slowly recovered, and now enjoys tolerably good health. When I asked him what doctor, or what medicine it was that restored him, he replied that it was no doctor at all, and the remedy could hardly be called a medicine. It was simply lime-water. A lump of quicklime is put into a large glass jar of water, and the clear portion is poured off from time to time as needed. He says they keep it constantly on the table, and a spoonful or two is taken at each meal. This alone has gradually restored his digestion. He says if he omits the use of it very long, the old well-known symptoms begin to come back. I suppose the remedy is nothing particularly new, for physicians often prescribe it, and, in fact, you can purchase lime-water, prepared for medical purposes, of any druggist. It is often given to babies, I believe, where there is a tendency to fermentation and acidity in digestion.] A. I. R.



THE EIGHT-FRAME HIVE FOR LADIES: WINTERING IN THE CELLAR; A BEE-APRON, ETC.

I have been an interested reader of the various discussions relative to the size of hives. I have tried both eight and ten frame hives, and have arrived at the conclusion that, for several reasons, the eight-frame hive is preferable where the honey season is necessarily short; at least, I have found it so in Northern Wisconsin. I keep only a few colonies, and have ample time for observation.

Again, in reading A. A. Rice's plan of wintering bees I find that he removed the covers and substituted absorbing cushions; but is it really necessary to use any thing if the cellar is in the right condition? I will tell you of my way for wintering bees, which I have tried for three successive winters. I have never lost a colony. I leave the bottom-board on, remove the covers, and tack a piece of old cotton cloth (usually a piece of an old sheet) over the top of the hives. This prevents the bees from escaping, and at the same time allows the moisture produced by the bees to escape. My cellar is only an ordinary one under the kitchen, with a door opening into the kitchen. I ventilate the cellar by opening the door; also the outside kitchen door. I usually keep a few bushels of potatoes in the same cellar—not as provender for the bees, but I find that, while they remain sound and firm, the bees are in good condition.

I was especially pleased with the article telling of some one, I could not quite make out who, that indulged in licking the honey from his fingers while at work among the bees.

Perhaps some of the ladies who keep bees will be pleased to know of an apron that does

away with soiled hands, and at the same time is useful as a means of keeping the garments clean. Take common table oilcloth; cut out an apron of any size you may desire; be sure to have it seamless. Cut notches around the edge, to save hemming, as that makes it heavy. Now cut two wide deep pockets; sew them flat on the outside of the apron, holding them a little full so that they will not tear at the corners when filled. Fasten on two stout strings. Wet a sponge, or a piece of Turkish crash. Put it in one pocket; use it to wipe your fingers on. The remaining pocket is intended for miscellaneous articles, such as tablet, pencil, a small file, which I use to pry off covers with. Of course, this is simply a matter of choice. When you go out to work among the bees, tie this apron on; adjust your veil as directed by Miss Wilson, and you will be (or ought to be) happy, cheerful, serene—yes, even though the bees sting your hands, and the playful zephyrs burn your face to a beautiful red. A. C. N.

Rice Lake, Wis., June 30.

[We do not know that absorbents over colonies in the cellar are absolutely necessary. Mr. A. A. Rice, however, was successful in their use. It would be doubtful, if he were alive, whether he would risk going without them. Dr. A. B. Mason, who winters most successfully in the cellar, uses nothing but thin cloths over the bees.]

The individual who makes a practice of licking his fingers when daubed with honey is Ernest, and he is the chap who always uses the pronoun *we* in the footnotes. We have no doubt that a damp sponge would be cleaner and nicer. But what a pocketful it must make! Somehow or other we find it convenient to get along with as few tools as possible. A light thin veil, a knife, and a smoker, are about all the tools we ever use when working with bees.—Ed.]



PAPER PANS FOR SHIPPING-CASES.

Question.—I understand that you use paper pans inside of your shipping-cases, to catch the drip from any section that may chance to "bleed" from any reason, thus preventing this drip from soiling the cases of honey which may be below it, as it otherwise would, were no such thing used. What I should like to know is, how you fold these paper pans. I have a way of folding them over a sheet of tin, cut to fit the inside of the case; but it is rather slow where hundreds of them have to be prepared in a single season. It seems to me that some simple machine might be devised to do the folding with one or two motions, without having to go over each edge and corner separately. You would oblige by describing your method in GLEANINGS.

Answer.—This question comes in very opportunely, as now is the time we should prepare our honey for market; and I know of no one thing which helps as much to bring favor to our goods as do these paper pans in the bottom of each case. While in New York, some years ago, I saw cases of honey piled ten and twelve high, and the drip from the upper cases ran all the way down to the floor, daubing the snow-white cases, which had been gotten out and put up with great pains, not only spoiling all their beauty, but making them a sticky, nasty mess to handle. Up to that time I had not used paper pans; but then resolved that I would try to fix some way so that my honey should not appear in market in that condition. That winter I met Samuel Snow, a quiet bee-keeper residing in our county, at the New York State Bee-keepers' Convention, and in a private conversation with him he told me that he used paper pans for the prevention of drip through shipping-cases, telling minutely how he made them, kind of paper used, etc. The next season found me buying manilla paper, of a quality costing 10 cts. per pound, in quantities of from five to ten pounds, when a piece of board was fitted to the inside of the case, the board being $\frac{3}{8}$ inch thick. The paper was now cut $1\frac{1}{2}$ larger each way than was this board, so that, when this paper was folded up evenly all around it, the sides of the paper pans were just $\frac{3}{8}$ deep. The pan was now slipped inside of the case, and a little strip of wood, just as long as the case was wide, and $\frac{1}{2}$ inch wide by $\frac{1}{8}$ thick, was placed at such distances along the inside of the paper pan as was necessary, so that the ends of the sections rested upon it, thus keeping them up $\frac{1}{8}$ of an inch from the paper, thus allowing the drip to rest below the sections so that the outside of the cases was never soiled while the bottoms of the sections were kept clean also, if any thing should occur to start the honey in them to leaking. This, of course, requires the cases to be made $\frac{1}{8}$ deeper than they would be were it not for these little strips of wood; but the keeping of the sections clean is of fully as much importance as the preventing of the drip through the cases. I have kept leaking honey standing all winter in such cases with paper pans, and the manilla paper seemed sufficient to stand a wetting of honey that length of time, as none of it soaked through so as to come through the case any. I am well aware that, so far, I have not answered the question; but I thought that, if I said any thing on the subject, it should be made plain, so that any one could make and use the paper pans who wished. I have no other mode of folding than that described above, or the one-by-one method, and think that, by this plan, with the board, I can fold from 80 to 100 an hour, so that it is not such a serious job unless honey is produced up into the tons. However, if there is a quicker way, or one where several

pans can be folded at a time, I as well as other readers of GLEANINGS should like to know of it.

REARING QUEENS AFTER THE SUMMER HONEY-FLOW.

Question.—I have some queens which I wish to supersede with queens of my own raising after the summer honey-flow, or in the interval between the summer and fall flow of honey. Can I raise them as late as August, and be sure of drones for their fertilization, without any special provision for drones? In other words, how late can I reasonably expect queens to be fertilized in the ordinary drone season?

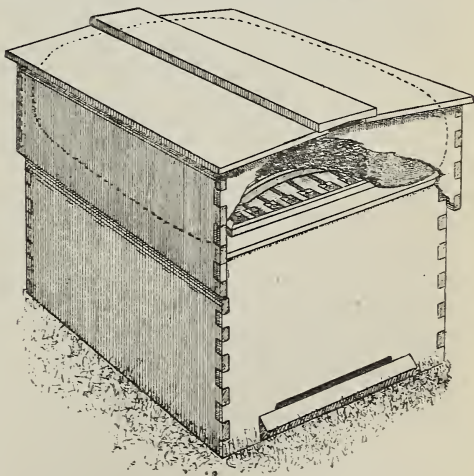
Answer.—In this locality drones are usually driven out of the hives soon after the summer honey-flow ceases; and unless there should happen to be some queenless colony in the neighborhood which would keep their drones, the queens reared at such season of the year might prove to be drone-layers; still, as a rule, some colony within mating distance of our queens is liable to hold or keep their drones so that little risk is run in having queens prove drone-layers if reared in August. But I should prefer to run no risk, nor would I wish my queens to take their chances of mating inferior drones, coming from a promiscuous source; and for this reason I set frames of drone comb in one or two of my best colonies for drones about the middle of the summer honey-flow; and as soon as the flow is over this drone brood is massed in a strong colony, which is now made queenless, when it will keep these selected drones as long as it is kept queenless. If fed abundantly, this colony will rear fine queens for you, but little if any inferior to those reared in the height of the honey-flow. This massing of drone-brood from selected mothers, for fall-rearing of queens, pays as well, according to my way of thinking, as any thing any queen-breeder can do. I firmly believe that, with many other of our most practical bee-keepers, more depends on the selection of the drones than on the selection of the queen we breed from; yet how few pay any attention to this matter of the selection of drones! The one great hindrance to a rapid improvement of our stock along the many lines we wish, lies in the fact that at best we have only very imperfect control of the drones which our queens mate with. Nearly every year some one writes me that they are ready for the \$100 I once offered for a sure and simple way of mating an individual queen to an individual drone, so that we could be as positive regarding the matter as we were with the most of our other domestic stock; but when I come to write for particulars of the matter it always turns out to be the same as in the past, that some device has been employed like a tent, barrel with glass in the top, etc., after which the queen was put in the hive, and in four or five days she was laying. Being told that the queen flew from the hive after being put in, and that she must have her wing clip-

ped before she leaves the tent, etc., in order to claim the offer, no one lays claim to it after such precautions are taken, and I feel justified in claiming that there has not been a single instance where a queen has produced worker brood and bees, except as she has flown out in the open air to seek a partner, free to go where she desired. I used to believe the controlling of the mating of our queens was a possibility; but my faith is growing weaker every year.



THE 1894 DOVETAILED CHAFF HIVE.

It is not too early yet to be considering methods of wintering. If you expect to winter outdoors, as the majority seem to do in this latitude, it is about time you were considering your double-walled hives, if you have not yet laid in your supply. Our dovetailed chaff hive has given good satisfaction, with one exception, and that was the cover. The wet from the rains had a fashion of creeping up the perpendicular edges of the water-table, and soaking the cushions. Accordingly, last winter we made large telescope covers*—large enough



DOVETAILED CHAFF HIVE.

to telescope over the hive, water-table and all, and 9 inches deep. This left room for a good-sized chaff cushion to rest over the brood-nest, and to extend over the water-table. All that is necessary in preparing for winter is to put on the cushion over the Hill device, and slip the cover over the hive. The accompanying engraving will show the arrangement as we use and recommend it. The water-table remains the same as it was made several years ago.

*Just the same as used on the winter case.

The raised edge has the same outside dimensions as the eight-frame dovetailed bodies, and therefore the ordinary eight-frame stories and supers will fit on this hive. The cushion occupies the space as shown and indicated by the dotted line. The ends of the Hoffman frames appear just under the Hill device, that part of the cover being broken away. The cover will telescope over the whole an inch or two, depending upon the thickness of the cushion, and whether or not air-space above said cushion is desired. In this case, small cleats can be nailed on inside of the cover, at the right positions, so that the cleats will rest on the water-table, and support the cover high enough to leave the air-space above the cushion; but in actual practice we find it just as well to let the cover come in contact with the cushion. The ventilator at the ends, just under the ridgeboard, affords sufficient ventilation for the escape of moisture.

Our colonies, under such covers and in such hives, wintered perfectly last winter.



EIGHT V. TEN FRAMES.

I notice by GLEANINGS that Dr. Miller is "on the fence" in regard to using the eight-frame hive instead of the ten-frame. One objection to the eight-frame hive, as he puts it, is, that the bees don't like to raise brood in the two outside frames. My hive is a little larger than the eight-frame; but the bees of nearly every hive use one or both of the outside frames for brood. My frames are parallel with the entrance (not the best way, however), and it is the exception when I don't find brood next to the back side of the hive. The secret of it is this, if it is a secret: Have the same spacing between the outside frame and the side of the hive that you have between the frames. I use little pieces of heavy tin, $\frac{1}{4}$ in. wide and about 2 in. long, bent in the shape here shown:

My father began using them something over 16 years ago. I use four on each frame, putting them on diagonally opposite sides—two on the top-bar about 2 in. from the end, and one on each bar, about $2\frac{1}{2}$ in. from the bottom. I nail four to the hive also. I don't think they are as good as the Stephens spacer, and I prefer the Hoffman V edge to either. That could never dull the honey-knife in extracting.

I have something over 100 hives. Two of them are eight-frame Dovetailed hives which I got last year. Both were strong colonies this spring, and one of the queens—a two-year-old one—was especially prolific; but in neither was there any brood in the outside half of the outside frame. In my regular hive, ten frames oc-

cupy $14\frac{1}{4}$ in.; so perhaps strips $\frac{1}{4}$ in. thick, nailed to the side of the Dovetailed hive and to the follower, wouldn't be thick enough to accomplish the desired end. Incidentally, such "offsets" prevent the bees from gluing the top-bar to the side of the hive or follower.

JOHN S. CALBREATH.

Rock Rift, N. Y., July 2.

QUEENS CHANGING.

Mrs. Atchley's article on page 452 brings to mind an incident in my early experience with bees—about eighteen years ago. I had bought a swarm from a neighbor, and, during the summer and fall, the queen produced nothing but nicely marked Italians. The next spring I was surprised to see a considerable number of hybrids in that hive; and when I opened the hive and found the old queen, which had produced nothing but nice Italians the preceding year, had a clear case of a queen changing. The old queen was marked so that there could be no doubt that she was the queen which had produced nice Italians; and there was the host of hybrids present to prove that she had changed. A clear case, wasn't it? It proved conclusively that Quinby, Langstroth, Root, and the other fellows who wrote bee-books, didn't know every thing about bees. It was a good, clear, incontrovertible case of a queen changing; but my curiosity led me to open the hive again in a few days, and that time I found another queen. It was a case of mother and daughter living through the winter in the same hive, but it *wasn't* a case of "queens changing." In a case like this, Mrs. Atchley's "mark of identity" would prove a failure.

East Springfield, O.

R. M. REYNOLDS.

LAYING WORKERS; WILLIE ATCHLEY'S IDEA INDORSED.

On page 506 Willie Atchley has given Rambler an answer as to where the egg came from that was found in the super. There is no doubt that Mr. Atchley is right, and no doubt many will remember having seen eggs in supers, and wondered how they came there. I think we have all read of bees stealing eggs, and many honestly thought they did so, and possibly in some cases it has been done. For some years I have wondered how it came that I could find a few drones in worker-cells in the supers. Three years ago I became fully satisfied that it was the workings of a laying worker. We know that laying workers are in the hives at all times, or, at least, during the honey season, and they will get in their work when we least expect it. Cyprian bees and their crosses are much the worst, and I found quite a little trouble with them because a laying worker would set up business within a few hours after the queen went out with a swarm. Then why should not a worker, when above a queen-excluder, deposit a few eggs once in a while? We

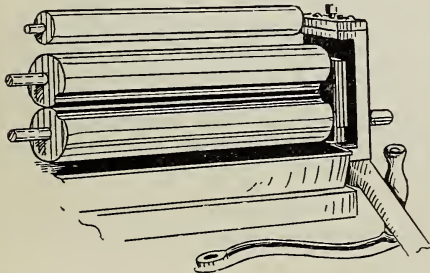
venture the assertion, that no one ever knew eggs, deposited above the queen-excluder, to hatch out any thing but drones. unless by chance the queen got through; and if she did get through, was she ever known to get back alone? We believe a queen could pull herself up through the perforated zinc much easier than she could down. I believe that, if bee-keepers would only look for fertile workers or laying workers—whichever you wish to call them—they will find them more numerous than expected.

M. W. SHEPHERD.

Rochester, O., June 20.

A SUGGESTION FOR FOUNDATION-MILLS.

It seems to me I have struck on a valuable point in the construction of foundation-machines. I inclose a draft that illustrates the point. It is simply a groove, or depression, in the rollers, and matched so that, when the sheet is started in, there will be a bit of the end that will not be pressed or stuck to the roll. Thus the end of the sheet can be grasped at once, and the rolls need not be stopped to pick the end loose. The rolls would have to be thick enough so that they would make the longest sheet with one turn of the roll. A six-inch



diameter in the roll will make a sheet long enough; and they can be made as short as wanted, on the same roll. If it runs too hard for direct power, gear back. Have the groove, or starting-point, so that it will always stand open, just ready for the sheet when the crank is at rest. The idea may be old to you, but it seemed valuable to me, so I suggest it.

Loveland, Col., March 7. R. C. AIKIN.

[The idea is a good one; but it is not practicable to make rolls 6 inches in diameter. They would cost three times as much as the present mills.—Ed.]

DOES THE ACT OF CLIPPING A WING HURT?

Why don't some of those old bee-keepers who clip queens' wings off get Quinby's old "Mysteries of Bee-keeping" and learn how to prevent swarms from putting off to the woods? It would save them the cruel practice of cutting wings. They say it doesn't hurt; but nobody with feeling believes it. I suppose dehorning cattle doesn't hurt. Some say it doesn't. Everybody knows better. I live surrounded, within 600 yards, of woods on three sides, and my bees

never elope. Quinby's plan is—as soon as hived, move the hive at once to some other place, say two rods off. They never leave with me. Before I read this and practiced it, about a half cleared out.

I. BARFOOT.

McClure, Ga.

[Unless there are nerves in the wings the clipping of them can give no pain whatever. The microscope, if we are correct, shows no nerves, nor any thing that corresponds to them. There are nerves in the hollow of the horn of cattle, the same as in the human tooth. Hence the cutting of either causes pain.—Ed.]

EXCESSIVE SWARMING OF CARNIOLANS.

[The following card will explain itself:]

I wish to ask the Carniolan bee-keepers how they keep the Carniolan bees in the hive long enough to get a box of honey put up. I wish the answer to come through GLEANINGS.

Emporia, Kan.

CHAS. CHANDLER.

[There are a number of Carniolan bee-keepers who can give their experience. Carniolans with us seem to be more inclined to swarm than any other bees we have. Still, we have not had any special difficulty with them.—Ed.]



Bees are doing nicely on raspberries and clover, with excellent prospect for basswood. So far this seems like one of our old-time honey seasons.

A. E. MANUM.

Bristol, Vt., June 21.

Bees are making us hustle here now. Swarming has commenced.

N. D. WEST.

Middleburgh, N. Y., June 11.

Honey crop is nearly 50 per cent above an average, and of good quality. Our honey-flow is now about over, and we have only to clean up for the summer.

W. J. DRUMRIGHT.

Sarasota, Fla., June 10.



I shall not make a pound of surplus. In this section we have to feed our bees now. Cold spells in March and April ruined every thing. I want to supply my local trade at least.

Glasgow, Ky., June 12.

F. G. RAILLEY.

DISCOURAGING FOR MISSOURI.

I have had the poorest honey-flow for 8 years. Frost came for three nights and killed raspberry-bloom, oak and sumach leaves, till the woods look as if a fire had passed over them. Basswood buds are killed. If I were able I would put 120 colonies on cars and go to Wisconsin woods. I shall not put on the sections. No rain for a month, and grass and clover are burned up.

Hopkins, Mo., June 4. JOHN C. STEWART.



Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt, and where thieves break through and steal.—MATT. 6: 19.

THE portrait-plate showing Bro. Holtermann, in another column, came from the office of the *American Bee Journal*.

By error, the article on "Imported Queens," page 546, was credited to Harry Lathrop, when it should have been J. R. Reed, of Browntown, Wisconsin.

BRO. HUTCHINSON is making a great success of the hobby that he rides between times—photography. Before us lie some beautiful photographs illustrating various phases of apiculture.

G. M. DOOLITTLE has a valuable and seasonable article under "Seasonable Questions," in this issue. Don't fail to read it, if you are troubled with honey dripping from one shipping-case to another.

THIS morning, July 11, the bees have been roaring on the basswoods stronger than we ever knew them to do before. Great swarms of them pour over the tops of the evergreens, and individual bees drop down as if they had just strength enough to get to the entrance.

MR. EMERSON T. ABBOTT, of St. Joseph, Mo., President of the N. A. B. K. A., the date of the next annual convention having been fixed (Oct. 16-18, at St. Joseph), requests that the readers of *GLEANINGS*, who think of going, send him a card at once. This will aid him greatly in getting reduced rates.

ALTHOUGH *GLEANINGS* has the distinction of being an illustrated journal, this one seems to be especially full of pictures. Fact is, it is now, or ought to be, a busy time for the bee-keeper, and he has to review his journal by glances rather than by extended reading. Engravings are great time-savers to the reader.

SEVERAL days ago I expressed a wish that the above text might be printed in very large black letters, and placed on an immense banner in the city of Chicago, so high up that every man, woman, and child in that turbulent city might see it. My suggestion was met by the remark that most of the law-breakers could not read it, for they could not speak a word of English. Then I would have it printed also in every man's mother-tongue, and I would beg of Mr. Moody and his army of workers to go earnestly to work explaining the text to the people. Then I should expect a result something

similar to the one that followed his revival work in the city of Dublin, several years ago, when more than half of the police force of the city could be dispensed with. A. I. R.

DID it ever occur to you that thick-top bars are much easier handled, because of their affording plenty of finger-room along the thick edges, than the ordinary old thin top-bars? It is almost impossible to handle the latter, when filled full of capped honey, without running the fingers into the honey. Not so with thick-top bars. We have just been handling the bees at our out-yard on both kinds of frames, and we notice that there is a marked difference in the relative convenience of handling.

AT this time of year, propolis has a way of sticking to the fingers, daubing up smokers, and sometimes making it difficult to let go of a tool when we want to. All this may be avoided, says Alfred Mottaz, of Utica, Ill., by smearing the tips of the fingers with a little grease. Perhaps it would not be a bad idea, just before starting to work among the bees, to dip the ends of the fingers in a little vaseline or grease; and then, for instance when we go back to replenish our smoker, dip the fingers in again.

Later.—After writing this much we concluded it would be best to put the thing to an actual test; and, procuring a small box of vaseline, we smeared the tips of the fingers, and so far it seems to keep the fingers clean of propolis stains.

THOSE PARENT COLONIES.

THE following letter, received, will explain itself:

IN *GLEANINGS* for July 1, page 554, you give an interesting account of a bicycle visit to the apiary of Mr. Vernon Burt. Near the close of the article, in describing Mr. Burt's methods in hiving swarms, you say he, in a day or two, runs another swarm into the old hive he had removed to a new location. This is a new idea to me, and probably is to many of your readers. Will you kindly describe fully in *GLEANINGS* the proper way to go about this method of handling swarms to keep down increase? Will they not be inclined to fight? and should queen-cells be removed from the old hive?

Torch, O., July 5.

L. POSEY.

We did not desire to convey the impression that Mr. Burt ran a swarm into every one of those parent colonies that were set on another location; only a few of those, comparatively, were thus treated. As to the queen-cells, he cuts them out if he has time; otherwise he lets the bees fix things their own way. As to the rest of the old colonies, they are allowed to build up for winter. If they gather any surplus it is in combs for extracted honey. Of course, this method does not prevent increase—that is, in numbers—altogether: it simply checks it. But in Mr. Burt's case he desires

some increase, intending to establish an out-yard next season, for he now has 170 colonies in the one location. As to the bees fighting, he has no trouble, for they are pure Italians. He might in rare cases if they were hybrids.

THE HONEY-FLOW FOR 1894.

THE honey-flow, so far as reported, seems to be widely different in various localities. So far in Ohio—at least in our vicinity—we have had a good flow from basswood. Certain parts of York State and Pennsylvania report the same. As the letters are coming in day by day, about half report this as being the poorest of the poor seasons so far. The other half—especially those in the basswood regions—are jubilant over their fine crops of honey. In a few days we expect to send out statistical blanks to get more accurate information. It is a little too early yet to judge accurately of the season. But we know enough already to feel assured that a very large number of bee-keepers will get no surplus.

THOSE FIVE-BANDED BEES, AGAIN.

WE have been making some tours among apiaries a few miles from the Home of the Honey-bees, for the special purpose of learning in regard to the qualities of the so-called five-banded bees. So far as observed, we have found them to be excellent honey-gatherers, though we can not say that we consider them any better than the ordinary three-banded bees. They are certainly more nervous—at least, the average run of them—and the bees of some colonies of them will shoot like darts at the apiarist on the slightest provocation. Indeed, they remind us very much of our old Cyprians. But it is fair to say that there are some of these five-banded bees that appear to be as gentle as any, and equal to the very best, in working qualities. We hope the breeders of these bees will be careful to eliminate, so far as possible, their tendency toward viciousness, and preserve their good working qualities. To sum up, the five-banded bees are beautiful, are excellent workers, are crosser than the average Italians, and not as hardy for our northern winters. This estimate is made upon the yellow-banded bees reared by different queen-breeders, and is as fair as we know how to make it. As Neighbor H. says, he can rear one kind of bees as well as another. So can we; and therefore, from a pecuniary point of view, we are not biased in our judgment.

THAT PECULIAR DEAD BROOD; NOT FOUL BROOD.

ABOUT this time of year we generally receive samples of brood of what purports to be foul brood. In fact, it resembles it in general characteristics, lacking two important symptoms: namely, ropiness and glue-pot odor. It seems to occur during warm weather; but usually, if

let alone, it will disappear of itself. Two or three years ago we had a couple of cases of it in our yard; and it will also be remembered that we reported, at the time, the same malady in one of the apiaries of our neighbors. But it all disappeared, causing no trouble. It has re-appeared this summer in one of our out-yards, and also in one of Neighbor H.'s. But we feel very certain that it will go off of itself. Perhaps some of you may have discovered the same thing. The *appearance* of this dead brood is identical to that of foul-brood—cells sunken, larvæ dead and shriveled up, varying in color from dark brown to a black; but if you discover no ropiness in the dead matter, or no odor, you may have no fears. As yet we do not know the cause of this peculiar disease. The fact that it comes during hot weather, in the midst of a heavy honey-flow, may put us on the track of the cause.

THOSE 4000 BASSWOODS BLOOMING, ETC.

BASSWOOD seems to be still holding out—at least, it is taking another spurt. In some recent trips south we found the trees were still in bloom, and the bees were humming upon them in great swarms. The bee-business is one that is rather uncertain nowadays when the sole dependence is on white clover. The latter is scarce everywhere this year; and but for the basswoods there would be but very little white honey to report, we fear. Of course, alsike has done nobly; but the patches of it are so limited in extent over the country, that, while individual apiarists secure quite large crops from it, all the alsike honey put together is only as a drop in the bucket in comparison with other white honey.

Later.—Since writing the foregoing, the bees are roaring on the basswoods heavier than ever. Indeed, in going to and fro in such great droves, they caused some of our employes to report swarming.

This morning, at 5 o'clock, we took a run down to the basswood orchard, and there we found the same kind of roar, but the bees did not have to go so far to get the honey. Examination showed that the nectar was glistening in tiny drops in many of the blossoms, and the bees were so wild with excitement that they apparently did not stop to clean the blossoms up dry, but simply hunted for big drops, and let the rest go. But what astonished us more than any thing else was, that on the south side, or on the side toward the home yard, not a single bee was either going or coming, indicating that the bees from the last-mentioned place got their honey from a nearer source. It would appear, then, that the home-yard bees seldom or never get any honey from the basswood orchard, although not more than 1½ miles from the home yard, in a bee-line; hence the wisdom of establishing a yard in the orchard itself.

THE HOLTERMANN FAMILY.

IN our last issue, reference was made to a couple of fine half-tones that appeared in the May number of the *Canadian Bee Journal*, showing the members of the editor's family. Feeling sure that our readers—at least those who do not take the *Journal*—would like to see these same half-tones, we asked for the loan of the plates, prints of which appear herewith. Mr. Holtermann, although a comparatively young man, is one of the leading and influential bee-keepers of Canada. He has been secretary of N. A. B. K. A., and has been present at several of its meetings on this side of the line. When we know a man so well it is

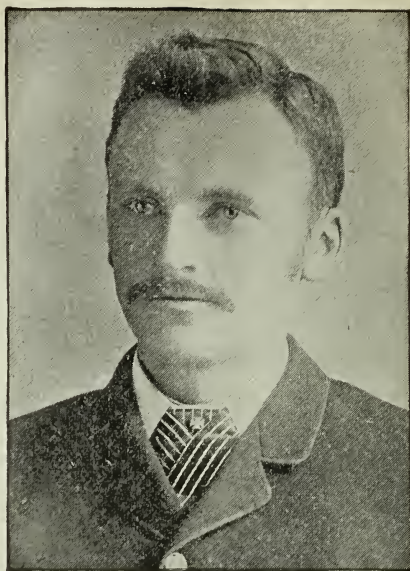


MRS. R. F. HOLTERMANN AND CHILD.

always interesting to know how the members of his family look; and therefore it affords us great pleasure to introduce them to you, so far as it is possible to do on paper.

THOSE NAUGHTY SPACING-STRIPS.

QUITE a number are asking us why we do not nail a strip of wood of the right thickness, and in the right position, on the inside of the Dove-tailed hive, so as to space the outside frame a bee-space from said side. We have been writing to one and all that they will find the strips an intolerable nuisance, just so sure as they put them on; and wherever we find a pair of them on we pull them off with a yank. The fact of the matter is, the outside frame should be shoved within a bee-space of the side of the hive; and this will leave just room enough to leave a bee-space on each side of the division-board on the opposite side. Now, then, when we desire to move a frame, or, better yet, a



R. F. HOLTERMANN, EDITOR CANADIAN BEE JOURNAL.

division-board, we simply shove the whole set of frames as far as they will go, over to one side, crowding the last frame for the time being clear up against the hive-side. This gives room enough to remove the division-board with ease. But suppose those naughty strips of wood are in, and you have big fingers; then you may have to worm away a good while before you can get the division-board out, which, as a rule, should be removed before any of the frames.



JUNIOR EDITORS OF THE CANADIAN BEE JOURNAL.



Gather not my soul with sinners, nor my life with bloody men; in whose hands is mischief, and their right hand is full of bribes.—Ps. 26: 9, 10.

What I shall have to say this morning refers principally to the last half of the closing sentence of the text above—"Their right hand is full of bribes." It would seem that receiving bribes is not a new invention entirely, of modern days. Selfish men without principle have abounded since the world began; and they have been the trouble and the lament of all good men during all ages. At the present time I fear that many good people feel like settling back with a groan of discouragement, and saying, "Well, we just can't do any thing, any way." But that is not true. It is a suggestion of Satan, that we can not help the sin that constantly abounds. We can do a very great deal, and perhaps some of you know the remedy that I am going to suggest; and, in fact, it is the remedy the Bible suggests on almost every page—that is, make our own lives upright and pure; and then if we don't do any thing more, we shall at least stand a much better chance with other sinners, or worse sinners, if you choose. David said, "Then will I teach transgressors thy way, and sinners shall be converted unto thee." The word *then* refers to the time when God should have created in David himself a clean heart, etc.

Now, what shall we do with the bribes and corruption of our land? Why, in the first place we must take great care to mend every thing that has even the appearance of evil in our own lives in this very line; for I do believe a great part of us are at least indirectly encouraging this sort of thing. I wish you would read the whole of this 26th Psalm, and then read the one before it. Why! it is really plaintive, the intense earnestness with which David prays that he may be kept out of these things. He says, "O keep my soul, and deliver me; and let me not be ashamed." And he says again, "I will walk in mine integrity; redeem me, and be merciful unto me."

A little time back I spoke of the gambling mania. Well, the bribe mania goes hand in hand with it. Perhaps, however, men accept bribes in some sort of shape where they do not think of doing any thing that even savors of the gambling or bribe mania. Let me illustrate. Several times in my experience in hiring hands I have been told something like this: A man comes to the foreman of a certain room, and says, "Mr. A., if you will get Mr. Root to keep me through the dull season, when others are let go, I will give you a five-dollar bill." This man does not even plead his skill or ability; neither does he claim that it will be for Mr. Root's interest to retain him and let others go. The only point before him is *his* interest—his *self-interest*. Other men are poor; other men have large families. He has no thought of this at all; he simply wants to get ahead and crowd others back; and he offers the boss of the room five dollars if he will manage to give him a steady job. I do not know how he expects him to do it, but very likely by saying to his employer, "Mr. Root, when you are thinking about what men you will keep, and what ones you will let go, I think it would be to your interest to keep Mr. B." I do not know how far the boss of the room is expected to go. Perhaps, in view of the five dollars, he is expected to say, "Well, I think Mr. B. would

work for your interest, would look after your property, and you would find it to your advantage to keep him rather than any of the others." If this latter be *true*, and there is no bribe in the whole affair, the transaction would be right and proper; but if, on the contrary, it is *not* true, or the boss of the room is like the man whom he is pleading for, working only for the *five dollars* he has in view, or for *self-interest*, why, then it is a terrible state of affairs. If the proprietor is a good sharp man there are two things that would stand in the way of the success of such a scheme. The foreman of a room who would lend himself to such a plan, or accept a bribe, is unworthy of his position and trust; and if he has secured the place of foreman he will probably lose it before long. You see, I know something about these things. Again, the man who offers five dollars or any other sum in this way is, as a rule, a poor workman; and the employer, if he is sharp, and looks after his business, would begin to be suspicious—that is, he would be suspicious to see a man recommended who, he was sure, was not deserving. I am sorry to say that this has been tried several times in our establishment. But no man ever got a place, that I know of, by any such trickery. He lowered himself, and lowered his money value, by making such an offer. In some government offices he might succeed; or where the proprietor was so well off that he did not need to look after his business. Should this meet the eye of the men who tried this sort of way to get employment, I hope they will believe me when I assure them that such a course not only destroys a man's self-respect, but it sinks him in the estimation of all good men. He can never prosper by such a course.

Again, a runner for a manufacturer of printing-inks offered the foreman of our printing-office some five or ten dollars if he would use his influence to have us buy all our inks of his house. I do not think he said any thing about the quality—in fact, that was a secondary matter. He would, if he could, get our trusty foreman to induce us to use a poor quality of ink at a high price, providing he was paid for so doing. Just think of it, friends—you hire a man to look after a certain department of your business—to use judgment, discretion, and wisdom in purchasing supplies. You pay him extra—that is, more than your other hands—for doing this. Suppose he should violate this trust reposed in him, and, instead of working for us, he should work against us, provided he could put money into *his own pocket*. I am glad to tell you that the boss in our printing-office promptly informed us of the questionable way in which this ink-house did business, or *tried* to do it. But it is not confined to manufacturers alone, this business of bribes. Suppose one neighbor says to another, "John, if you will use your influence to get Mr. B. to buy this horse I am trying to sell him, I will give you five dollars after the sale is made." Why, this thing is so common that some of you may smile at my simplicity. But, my good friends, whenever you do a thing of this kind, you are accepting a bribe. It is the same thing on a small scale that is being done by the government officers and by the police of our large cities, that is making such terrible havoc just now in business circles. If you profess to be an honest, square man, you lower your standard every time you become a party to any such transaction. How can a professing Christian listen to any such proposal? Perhaps you say, "Why, that is all right. You simply *hire out* to the man who has the horse to sell." You try to persuade your conscience that you are helping him along, just as you would help

him get in his hay. Not a bit of it. If you help him out of a tight place in *haying time*, there is nothing about it that needs to be concealed. Suppose you go to the man who wants to buy the horse; and, after recommending said horse, and telling of his good qualities, and none of the bad ones, you add, "By the way, neighbor, perhaps I might mention to you that I am to have five dollars of the money if I succeed in inducing you to make the purchase." How would that sound? What would the would-be purchaser think of both of you if the truth got out? Shame on the man who will sell his good name, or a little bit of it, for a paltry five dollars! The Bohemian-oat swindle and thousands of other swindles have been spread and propagated in just this sort of way.

Perhaps a great part of my readers occupy some office of some sort. Most of us have a hand in public affairs. If you are not working for the government, you are working for your village or city corporations. You may be road-master or school-director in the country. The man who occupies such a place as this will be solicited, sooner or later, to use the authority put in his hands to serve self instead of the great public, or his neighbors and humanity. When I was on our schoolboard, an agent wanted to sell us something new in the way of blackboards. He had some little blackboards for family use. They were worth five or ten dollars apiece; and before he went away he promised each member of the board one of these little blackboards, to be used in his home, providing we would give him an order for blackboards for our union school. One of the members of our board gave him such a scathing rebuke that it seemed to me as if he ought to remember it for a long time. And let me say right here, that, in all my deal with the great wide world, the men who will accept a bribe are the exception; and I have seen a manly and honest refusal to be a party to any such schemes, a good many times, when I hardly expected it. There are *thousands* in our land who value the good of our people and the good of our nation so much *more* than self that a bribe would be out of the question. But, wait a bit. We sometimes accept bribes, even the best of us, without thinking of it. Since our labor strikes, there has been much said about the free-ticket system—the free tickets furnished by railroads to favored ones. I made up my mind years ago that I would not ask any favors of the railroads. Without asking, however, a pass was given me—a sort of complimentary one, in consideration of the large amount of business our enterprise had given the railroad. In one sense it seems a little hard to say that this was wrong. If a man has bought strawberries of you right through the season, paying you a high price when the first berries ripened, would there be any thing wrong in making him a present of a basket of some choice variety, in consideration of the money he had paid you through the season? Why, it would be only a pleasant and neighborly thing unless it might serve to establish a precedent for such things. It used to be more customary than it is now, to treat a friend or relative when he came to see you. We used to ask him to take a glass of beer. As the beer disappeared (as I hope it has disappeared all around you), lemonade or soda took its place; but I am afraid, friends, that even the treating to lemonade or soda tends to encourage the giving and receiving of bribes.

You have all met office-seekers. You know how they go to work to get your vote and influence. By the way, I wonder if there is a place where people are put into office by the voice of their neighbors because they think the

man a fitting one, and not because he has gone around urging people to help him get said office. It was said to me recently, that no man got into office nowadays unless he *wanted* it and did considerable hard work to get it. Is this true in your neighborhood? I hope it is not. It certainly is not the best way. I do not care if you do say that it is the *only* way people can get office. All public offices should be filled by those whom the community at large decide to be the best person for the place, not by somebody whose principal recommendation is that he *wants* the place.

This is too big a subject for me just now. But somebody said to me yesterday, that when a man got a paying office nowadays it costs him a good deal of time and *money*; and that, after he is in office, he *must* have *some* way of getting back what he had invested in getting the office; and the way to do it was to look out for chances where he could get it back by favoring somebody else, instead of working for the people at large who support him and who pay the taxes. Is this true?

A word about getting office. I was asked recently to recommend a person for a certain place. I knew he was competent to fill the place, and there did not seem to be any reason why I should not favor him. In fact, I was a little afraid somebody not as competent, and not as good a man, might get it. My position happened to be such that, may be, I turned the scale in his favor. Now, I can not tell whether it was before this talk or afterward that he asked me how we were getting along for coal during the strike. I told him we had a little left, but that we were beginning to feel considerably uneasy. "Well," said he, "I knew something about it, and a relation said he guessed he could get you a car if he managed the thing a little, and I think the car was sent along, and will probably be along on your track this afternoon." In a few hours, there the car was, right in the nick of time. It is said that one neighborly act deserves another.

You see, I have given you a glimpse of all phases of this business of helping somebody who has helped you, or whom you expect to help you. Some of the illustrations we could scarcely call unfair or wrong; others are grievously wrong, or grievous wrongs grow out of them. I have told about the book agent who wanted to give me a book so that he could put my name at the head of his list. I would not have any book in that way. It is bribery, without question; and if a man has influence in his community, he ought to be *all the more* careful how he *tends* that influence to any one.

Let me touch upon something else that, while it is not exactly bribery, does place selfish interests before the interests of the public at large. A great many times, express companies carry packages in a roundabout way to their destination in order to "haul" the goods as far as possible on their own lines. Let me explain. We have just been getting beautiful large strawberries from friend Stehle, of Marietta, O., before ours were ripe. We had an arrangement made so they came through in a few hours, and were bright and fresh, even during extremely hot weather. The last shipment, however, fell into the hands of another express company. Of course, friend Stehle expected they would, at the right point, hand it over to the other company, so as to make the shortest cut to Medina. Instead of that, they carried it away around so as to go all the way on their own line, keeping it out over night besides. The berries were badly jolted, and a much higher express charge was made out, simply that said company might have all the "hauling," as they term it. I have made a

protest, but they have not replied yet. If the charge I am making against them is unjust I shall be glad to correct it. Now, is it true that express and railroad companies have been in the habit of doing things like this—damaging a customer, damaging the goods, and then making a larger price than to have taken the shortest cut? Once more:

During these dull times for railroads they are working hard to get business. They are sending out agents to secure freight over their respective lines, if they can. But suppose one of these agents should find out who does the "routing" for a manufacturing establishment. By the word "routing" I mean the man whose business it is to decide what line of railway shall carry the goods. Now, suppose the railroad should send a man to this routing clerk, and offer him, for his individual benefit, a free ticket to California, or some other place, providing he will mark all goods over *their* road whenever it is possible to do so; and suppose, in consideration of this free ticket, this routing-clerk sends goods away off out of the way, making the customers of the firm extra expense and delay, simply because he has been *bribed* to do this sort of work. I presume there are some who will excuse such a transaction by saying it is done every day. God forbid! and God *does* forbid that a man shall prosper, and be happy, who damages by extra expense and delay those who have confidence enough in him, or the firm which he serves, to intrust their money and their business to his care. If it is true that such things are common, then it follows that there are still *better* chances for honest men, and those who are faithful to their post, and to the great wide world, no matter what influence may be brought to bear. You may urge that the shipping-clerk who does this, simply throws a little more expense on people whom he does not know, and that everybody who does business must expect to meet this sort of thing. Just wait a bit right here. We are under just as much obligation to be honest and true to the great world whom we do *not* know, as to friends and relatives; and that wonderful passage in the Scriptures, where the Master said, "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me," declares it; and the man who swindles or wrongs the great public whom he does *not* know is swindling and wronging Christ Jesus himself; for the Bible teaches most emphatically that self and selfish interests are opposed to Christ Jesus. The Christian loves humanity, even as Christ Jesus loved it and died for it: and the man who tries to be right and fair to the great mass of humanity whom he does *not* know is really being right and fair to Christ Jesus himself, and to the great God above; and he who deliberately and unfeelingly swindles the masses, especially the poor laboring masses, the widows and orphans, and those who earn their daily bread by the sweat of their face—the one who steals their slight earnings in the ways I have mentioned, that he may get a little money himself—a five-dollar bill or a railroad ticket to California, or any thing else, is cheating the Lord Jesus Christ, the Savior of the world: for he himself has most emphatically so stated it. He is *robbing God*, and a day of reckoning will surely come, sooner or later.

GLEANINGS is one of my best friends in bee-keeping. I don't think I could make a success without it. This has been the best season for honey that I have ever known in this locality.

Cat Creek, Ga., June 12.

J. B. GRIFFIN.



AMERICAN PEARL ONIONS.

We commenced shipping these to Cleveland in the month of June. So far they have sold at a commission house at \$1.80 per bushel. They are put in crates holding a third of a bushel. We commenced shipping them before they were fully grown. We find that, by picking out those where the tops have dropped over, and laying them in the sun a day or two, they can be cleaned off so as to be firm and solid, and very nice looking. Those that seem to be growing, we let stand. This 7th day of July I hold in my hand a couple that measure 4 inches in diameter, and they are about as handsome as anything in the shape of an onion can be. This is the fourth year that we have successfully raised these onions. The sets are planted in September on a piece of ground vacated by early crops. They commence to grow as soon as we have fall rains, and make quite a growth during the fall. Of course, we cultivate them and keep them free from weeds, and this is about all there is to it—no mulching of any sort. When the ground becomes sufficiently dry in the spring, we run a wheel-hoe through them and pull out all the weeds that make their appearance. But the onions soon cover the ground so that very little attention or care is needed. For bunch onions, nothing can be nicer; but it seems almost wicked to pull onions an inch in diameter, when they would be three or four inches in diameter if simply left standing a few weeks longer. The quality of the onions, I believe, is equal to any; and they seem to bring the highest price of any thing in the onion line ever put on the market. This year we have grown successfully some beautiful sets by sowing the seed in March so thickly that they can not make large-sized onions. Some of the sets are dry enough to harvest now. We have raised the same sort of onion by setting out onion-plants instead of onion-sets. The seed for the plants was sown quite thickly in May and June, giving plants large enough to set out in September, at the same time we put out the sets. There were, however, more failures among the plants. If you have a firm, well-ripened set to plant out in September, if dry weather comes on, the sets keep in the ground firm and solid until it is wet enough for it to start to grow. An onion-plant, however, put out in September would not stand a severe hot dry spell as well as the set. For this reason, planting out sets seems to be the safer way. If the sets are much more than three-fourths of an inch in diameter, they are apt to send up seed-stalks in the spring; but if these seed-stalks are broken off down close to the onion, just as soon as you can see them starting, you will get a nice large onion. Some of our boys simply broke off the top of the seed-stalk; but this does not seem to answer as well. From my standpoint of view, and judging from my own experience, I do not see why raising American Pearl onions is not destined to be a great industry. Perhaps I should say that our best success has been on our creek-bottom ground. The most trouble we have ever had was when the season was so exceedingly wet that the onions were flooded with water. While low ground seems to be best for these onions, great care should be taken to avoid having them flooded.

WHITE MULTIPLIERS.

These begin to mature just a little later than

the American Pearl. The largest of them will probably sell in the market at about the same price, and although they are not as handsome, because where they crowd each other in the hill they are more or less pressed out of shape. But this onion is very easily raised, and I have never seen any sort of seed-stalk start in any of them. They simply keep growing nice solid onions; and I do not know of any onions in the world that will keep like the White Multiplier, unless it is the shallots. As nearly as I can understand it, the method of culture is like this: Gather your crop, and sort out those large enough for market. The others may be planted in September, exactly as we do the sets of the American Pearl, or you can hold them over and plant them in the spring. Ours planted in the fall have done rather better than those kept over till spring; therefore, where it can be done I should advise fall planting. After harvesting, with appropriate sieves sort those too small for market, in different sizes. The smallest will probably produce large onions the next season; but all large and medium-sized ones will divide up—one onion making a dozen or more. If they are to be kept for any length of time I would store them in a dry loft until freezing weather comes; then they can be kept over winter like any other onions, only they are very much less trouble. You can keep them through the winter until time to put them out in the spring, with scarcely any sending out a sprout; or they can be kept through the winter for table use, in the same way. They are so solid, firm, and dry, that a bushel of multipliers ought to be worth a good deal more than a bushel of the ordinary onions more or less soft and sprouted. They seem to be a pretty safe thing to have, and a pretty nice thing too. I fear, however, there will be complaint because there are so many small ones. An objection has been made that they do not yield largely. Now, my experience is that they yield pretty fairly. One onion, on an average, produces from 12 to 20 fold. Of course, the small onions will cost more than planting black seed. But, wait a bit.

SHALLOTS.

These are almost exactly like the Multipliers, mentioned above, except that they do send up seed-stalks and produce seed; that is, some of the onions send up seed-stalks. They produce black seed, not sets. I am told that this black seed will produce sets, and that these sets behave themselves like the bottom-sets, or the smaller shallots. Now, the shallot is still harder and firmer than the Multiplier onion. Why, they are just little beauties in that respect. They keep solid, and without sprouting, almost anywhere. Sending up a seed-stalk and producing seed is an *advantage*, because the expense of seed per acre will be so much less. Again, it is a *disadvantage*; because, if you want good-sized shallots for market, and not for seed, you would have to pull off the seed-stalks. May be I am not quite right in this thing, because you see it is a little complicated; but I am studying the habits of these interesting members of the onion family, and I think I shall know all about it pretty soon. I feel sure there is money in both shallots and multipliers. If you are curious in the matter, see the long article on "English Multipliers," in our issue for Feb. 15, 1894; also look up "Shallots" and "Multipliers" in the index for last year.

THE INDUSTRY GOOSEBERRY.

We have been picking ours; and as we sell the ordinary ones at 7 and 8 cts. a quart, I thought the Industries ought to bring 10. The first customer who saw them took the whole crop. Then we felt bad because we did not

charge 15 cts. instead of 10. May be you think that looks avaricious; but the berries really looked more like watermelons than gooseberries. They were not *quite* as large as watermelons, it is true; but a good many of them were like watermelons in shape. They were oblong, and beautifully mottled. Why in the world does not somebody have an acre of Industry gooseberries? I suppose that one reason is, that the plants are not as strong and robust as the other kinds. We have had ours two or three years; and, with the same treatment we give the others, they have made comparatively small growth. But I tell you they are delicious. By the way, who will tell us more about the Industry gooseberry? Who has raised them on a large scale, and what do they bring in the market?

A STORY WITH A MORAL.

Somebody told me that one of my small boys, about the size of those you saw in the picture, had sold \$3.40 worth of radishes from a five-cent paper of Chartier radish seed. I asked him about it, and he said it was true. He peddled the radishes around town himself. They were so much nicer than any I had raised that he sold them without any trouble. I was pretty sure there was an important truth back of it somewhere, for we have much trouble in raising nice radishes on our ground that has been so heavily manured with stable manure. They are crooked and wormy, and we get very few fine-looking ones. Yes, we have not had any nice ones, even on our swamp-muck ground this present season. Well, the truth I wanted to get at was this: The radishes were raised on a piece of ground where an old stable had stood a good many years. Now, friends, is there any such place on your premises? or are you "cultivating" an old stable of that sort to enable the coming generations to raise crops of radishes, etc.?

THE GANDY STRAWBERRY DEFENDED, ETC.

Friend Root:—I have just read "Our Strawberry Report" in GLEANINGS. The Gandy is not only a choice but also a very profitable variety with me. A single acre netted me over \$400 last season, and fully as much this. I sold \$150 worth from this acre yesterday in Jackson, 18 miles distant. Of course, much of the profit is due to its season. Haverland and Warfield are extra fine. I am much pleased with Timbrell, Gillespie, Leader, Lovett, Iowa Beauty, and Middleheld. Bederwood is immense. I expect great things of the Marshall. It is large, of extra fine flavor. Epping, Bissel, and Mary, are very promising. I set over 40 varieties this spring, but more of the Gandy, Timbrell, and Beverley, than of the others. I am much interested in the new Loudon Red raspberry, and expect to see it at its home, Janesville, Wis., in a few days, if the trains are not all tied up. I bought a dozen of Mr. Gault's raspberry last spring, which are doing well. They could not help it, with such plants and the care Mr. Gault takes in packing.

C. N. FLANSBURGH.

Leslie, Mich., July 4, 1894.

Friend F., you have given me just the kind of testimony I wanted to get. Prof. Green, of our Experiment Station, is a very observing man, and a very careful one; and that is why I value his opinion so highly in regard to new fruits; but he was evidently a little too severe on the Gandy. It may be, however, that your locality is especially favorable; but I do believe, with the acquaintance I have already had with the Gandy, that I could make it pay in our locality. I would put the plants on very rich ground; thin them out to a pretty good distance, then

mulch heavily to keep them back, and have the whole patch on a north hillside, or on the north side of a heavy piece of timber, in order that they might not dry up at the time strawberries usually dry up. Then when everybody else is getting small and dried-up berries, I would give them the finest of the season. If I had received your letter three days sooner I would not have plowed under the last of our Gandies. Just before we covered them with manure, preparatory to turning them under, I went through the patch, and found, where the foliage was rank enough to protect them from the heat, great handsome berries, of perfect shape and color, hard and firm to handle; and I really believe they were the most delicious in flavor of any strawberry I ever tasted. Unlike the Parker Earle, it did not undertake to mature more berries than it could manage nicely, and it made a perfect, finished piece of work of the very last berry of the season. Another thing, we could put out an acre of Gandies without having any fuss to have every third or fourth row for polenizer.

TOBACCO-DUST FOR BUGS—AN ADVERSE REPORT.

I covered the ground in and around my melon-hills with the tobacco-dust, and the bugs burrowed right through it and destroyed every one of them. My faith in it is away below par.

E. P. ALDRIDGE.

Franklin Square, O., June 8.

[Why, friend A., I am greatly astonished at such a report. It is the first one of the kind we have ever received. Perhaps the weather is very dry, and it needs rain to make the tobacco-dust do its work. Let us hear from you after a more extended experience.]



ON THE WHEEL.

Perhaps I should explain that I am now riding a Victor Racer instead of a Victor Flyer, as I was doing a few weeks ago. As a matter of course, I find the last wheel a wonderful improvement over all its predecessors, and Constance calls me fickle-minded because I am so ready to drop each wheel, when I thought there was nothing in the world like it, for each new purchase. As wheels are getting to be so common, perhaps it may be worth while to give my reasons for these changes. The Flyer weighed 29 lbs., and the Racer only 24; and I have been for some time thinking that it was folly for me to ride a wheel strong enough to carry a man weighing 200 lbs., when I hardly weigh 130. You may say the difference of 5 lbs. would hardly be noticed; but when you come to making trips of 30 or 40 miles in 3 or 4 hours, you will begin to discover that every ounce counts. Ernest was afraid it would hardly be safe for a man of my age to ride a wheel weighing less than about 30 lbs.; but I have tested pretty thoroughly my 24-lb. wheel, and I never want any thing heavier after this. When he told me, a year ago, that I would eventually discard brake, mud-guards, pack-age-carrier, and even the tool-box, in my general riding, I could hardly believe it, especially in regard to the brake. I thought I *must* have a brake for going down hill. But now I find myself going down almost every hill to be found on any well-traveled road, without any

brake, and, in fact, a good deal of the time I am urging the wheel *forward* instead of holding it back.

Last week I rode 32 miles, and did not get started till 20 minutes past 4. In order to reach home before dark I got into a way of riding down one hill fast enough to accumulate momentum to carry me to the top of the next; and where a hill went down just before the next one went up, I did this almost invariably; and in this way I made as good speed up and down hills, or nearly as good, as on level ground. I commenced by testing the wheel gradually, to see what it would stand, and how it behaved. Very likely this is dangerous business, unless you have a good strong wheel made upon honor. In going down at the immense speed that one accumulates, by the time you reach the foot of the hill, if any thing should break so as to throw the rider to the ground, it would result, likely, in broken bones if nothing worse; therefore it behooves the rider to examine his wheel often, and see that every thing is tight and in good repair. I hardly need say that the clothing worn, like the wheel, should be of such material as to dispense with every ounce that is not needed. If you carry a pocket-knife, let it be a light one, and let your money be paper, except what is needed to make change. If riding in hot weather, your cap or hat should be ventilated; starched shirts and collars should be exchanged for a woolen sweater, and light shoes should take the place of boots; and in order to save soiling the lower part of the legs of your trousers you should either wear knee-breeches or let your stockings come over your pants-legs. So much for a preface.

A few days ago a gentleman was looking over our grounds, and he asked several questions about my raspberries. His face seemed familiar, and I felt ashamed to ask his name. By the way, nothing troubles me much more of late than the way in which I forget the names of people whom I know quite well. I suppose it is because visitors are here almost every day. I remember the face, but I can not call the name; and sometimes I fear the good friends must feel hurt when I have to explain to them that I can not for the minute call them by name. It was so with this friend. In my talk with him I soon discovered that he knew a good deal more about raspberries than I did; and when he told me a little more about his different varieties and different fields at home I decided to pay him a visit, as he lives only about ten miles away. Next morning, with the aid of my wheel, I announced myself at his beautiful home, before breakfast. In fact, it was before 6 o'clock. I was on my way to our Ohio Experiment Station; and when he found it out he expressed a wish to go with me, and said his horse and buggy were at my service if I would consent to give up my wheel. As the day proved to be an exceedingly hot and dusty one, I felt quite satisfied to do so, especially as it gave me the privilege of having such a bright and enthusiastic fruit-grower as Prof. Grannis for a traveling companion. He is so modest a man that I did not discover that he was a "professor" at all until I had ridden by his side some ten miles or more; and he did not tell me so, even then. I wish to give you a little of this friend's history, for it may prove to be helpful, and on that ground I think he will excuse me for what I am about to say.

Friend Grannis has taught school all his life, or, rather, he has been principal of an academy the greater part of his life. He told me that he and his family lived about as other people do, year after year, letting expenses take up all the income, until he was getting to be middle-aged. He is a Christian man, and, of course,

wants to make his life count, not only for his own sake and that of his family, but for his friends' and neighbors'. At the same time physicians admonished him that his health would be broken down if he kept on teaching. What was to be done? He said he had heard people speak of A. I. Root, and of what he was doing in gardening and in growing small fruits. He visited our place, and what he saw was simply an astonishment to him. He could not understand how it was that other people did not go to work and get results such as he saw on our grounds, and on some of the poorest land in Medina Co. He pondered the matter, and made a huge resolve that, God helping him, the rest of his life should show forth something different.

While we were talking, the horse was stopped; and we went through a little bit of woods, and one of those poor worthless hills—that is, it used to be poor and worthless—was revealed to my gaze. It was covered from foot to summit with the most luxuriant growth of raspberries—all the different kinds—that ever met my eye; and the fruit, which was almost ripe, was in quantity and size beyond any thing I had ever beheld. It was indeed an oasis in the wilderness.*

I shall not have space to-day to tell you of my visit to the Experiment Station. On the way we talked raspberries, you may be sure. I asked him how much competition he had in the business, and he said he had almost none at all.

On the way home I happened to look off across a hill, not very far from his residence, and I broke forth:

"Why, look here, friend Grannis, you told me you had almost no competition. If that raspberry-patch over there is not competition 'right smart,' I should like to know what it is. Why, that man's ranch is taken care of just as well as your own; and I declare" (this latter was said as we came a little nearer) "I am afraid it is a *better* plantation than even your own."

He began laughing at my first remark; and as my enthusiasm warmed up he laughed still harder. When I turned around in surprise to know what he meant he replied, "Why, Mr. Root, that also is my plantation. Didn't I tell you I had 20 acres of raspberries all together? Now, I do not mean to say that I own this *land*. It belongs to a relative. But the crop of berries on it is mine."

A few minutes later, as I was preparing to step out of the buggy and get hold of my beloved wheel, he concluded with something like this:

*At a second visit paid to friend Grannis, I found that, on the 9th of July, he picked and sold 40 bushels at \$2.50 per bushel. Sixty pickers were at work at once, and 25 bushels were sold to people who came there with pans and pails from the surrounding country. You know how much Terry has urged that a man should make it a business to have some certain specialty; and I do believe that the right man, with the right sort of soil, will do better to raise raspberries alone, selling plants as well as berries, than to try to raise and keep posted clear up to the times on all of the other small fruits. Friend Grannis has under cultivation almost all the raspberries prominent before the world. This gravelly side-hill is simply an astonishment. The raspberry foliage on both the old and new was the brightest, most luxuriant, and thrifty, of any thing I have seen, and yet he is not using one particle of manure. He says that gravelly knoll has been under cultivation thirty or forty years, and has given fair crops of wheat year after year, without a particle of stable manure, chemical fertilizers, or even turning under clover or timothy. How many such gravelly hills are there scattered over our land? and are they being utilized? Prof. Grannis' address is Lodi, Medina, Co., O.

"Mr. Root, this day has been a happy moment that I have for a long time looked forward to. Several years ago I had planned, in imagination, inviting you to come down to see my work after I had succeeded; and I had planned, also, of telling you what I am going to tell you now. What I have accomplished, and what you have seen to-day, I owe to *you*. You have been my teacher and my inspiration; and the best part of it all is, that you did not know it. I have been around, and, when you were not busy, I have asked you questions, and you have courteously given me all the information you could, and then—forgot all about it. I say this for your encouragement. Do not get weary. Your untiring enthusiasm in cultivating the soil, in searching out God's gifts, will bear fruit—in fact, it is bearing fruit in places where you know nothing of it; and such teaching as yours, and that of others like you, is to be the salvation of your country."

Yesterday, July 10, my wheel and I made a raid through the onion-farms of Medina Co. I found that the most if not all of them are threatened seriously with the onion-midge. The symptoms are, a chalky, sickly color at the tops, with more or less curling up. This whitish color is caused by the surface of the leaves being gnawed all over by a minute aphid. You can see them with the naked eye, only by spreading the tops where the new growth starts and letting the sun shine down in. You will see them down there at work, so small as to look like fine grayish powder. They eat over the surface of the leaf when it is young and green. One of the professors in our Experiment Station has visited the plantations, and they have decided that the only feasible remedies are tobacco tea or dilute carbolic acid. They think the latter will be cheaper—one part of carbolic acid to 100 parts of water, put on the onion-tops with the spray-pump. I find the onions in almost every garden, and even on our own grounds, affected in the same way. We can not tell yet how great the damage may be. As is usually the case, where there is a very strong rank growth the insect has less power to do serious injury. The enemy is not an entirely new thing, but it has never been so widespread, and in such numbers, as during this present season. The injury is done to the leaf when it first starts out of the center of the top. Our American Pearl escaped the insect entirely by being mature, and part of them on the market, almost before the midge got to work.

THE BEST THING IN THE WORLD.

At the great national Christian Endeavor convention held in Cleveland, O., July 11—15, Gov. McKinley said something like the following: "I love the Endeavorers because they are building Christian character; and just at this stage of human progress there is no currency in the whole wide world in such universal demand as Christian character." The attendance was even beyond the most sanguine expectations. The great building, provided especially for the meeting, was speedily filled. Then the great tent, holding 10,000 more, was almost as speedily packed, with ever so many on the outside looking through the openings. Then an overflow meeting filled one of the largest churches, and then still another was filled likewise. The special feature of the meeting was the courteous, kindly Christian spirit that one met on every hand. Hundreds of white-capped ushers were ready to answer any question, and sometimes they would even approach you and say, "Friend, is there any thing you would like to know?" or, "Can we direct you anywhere you want to go?" There was no cigar smoke—at

least, none coming from any who wore the Endeavor badge. There were no uncourteous words; and while at one time the air in the tent was hot, almost to suffocation, it was wonderful to see people bear it with such smiling good nature. Where mistakes and misunderstandings happened, there was no grumbling. Beautiful ice-water by the barrellful stood at every turn; and a small boy, who belonged to the Endeavorers, manipulated the faucet so as to avoid spattering the nicely dressed girls, and also to avoid making a mudhole around the drinking-place. Nice pies, sandwiches, lemonade, and such like refreshments, were on hand at every turn, and at very low prices for the quality. Notwithstanding the great labor-strike at the time, not an individual in that great crowd had reason to complain that he lacked; and I did not even hear of exorbitant prices anywhere. It was worth going a long way to see a city decorated—stores, residences, and all public places—as Cleveland was with the Endeavor colors. I attended only one day, riding in on my wheel in the morning, and back home at night, making nearly 60 miles, besides taking in the convention.



CHOICE COMB HONEY WANTED.

We have a customer wanting to buy choice comb honey in 1-lb. sections, in large quantities. Those having it to offer should write at once to this office, stating about what quantity they have to sell, and the lowest price at which they will sell outright for cash, already cased and crated for shipment. It must grade choice to fancy.

HONEY MARKET.

We are receiving from Medina Co. producers, as we go to press, a nice lot of choice honey, both comb and extracted. The flow of basswood honey has been abundant here, and most of the honey secured is from that source.

Choice white extracted, 60-lb. cans, per lb., 9 cts.

In lots of 2 cases or more, " " 8½ "

Choice white comb honey, 24 lb. cases, 17 "

100 or more, 16 "

White-sage extracted, last year's crop, two 60-lb. cans to the case, at 8c per lb.; 2 cases or more, 7½c.

ONION-SETS READY FOR MARKET.

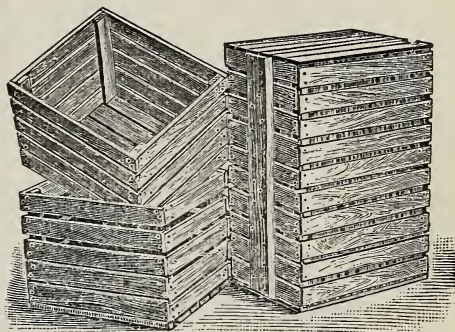
New Egyptian (or Winter) onion-sets ready for market, per quart, 5 cts.; peck, 35 cts.; bushel, \$1.00. These may be planted now any time where early crops are taken off. The sooner you get them into the ground, the larger will be your early onions next spring.

Extra Early American Pearl onion-sets—quart, 35 cts.; peck, \$2.25. I have never tried planting these earlier than the first of September, and I do not know what the result will be from planting them now. But I am going to try it. If we do not have rain, the sets would lie in the ground without starting, until rain comes. If we do have rain they might make such a growth this fall as to trouble us more by trying to grow seed-stalks in the spring. If any of these onion-sets are wanted by mail, add 10 cts. extra for postage and packing.

Our White Multipliers are also ripe, and ready to gather. Price, per pint, 10 cts.; quart, 15 cts.; peck, \$1.00; bushel, \$3.50. This is the price of the small sizes generally used for planting. Larger sizes, suitable for pickles or table use, half the above prices. The large sizes, if planted out now, will, if we have rain, split up into a great number of small ones yet, this fall. Please notice, you need not fear to plant the multipliers now, because they never send up seed-stalks—at least, I have never found a single seed-stalk in a whole field of them. They

just keep increasing like potatoes; and I am inclined to think you can get two crops in a season—one in the spring and one in the fall—that is, when we have plenty of rain. If you wish to increase your stock rapidly you can certainly do so by separating the cluster of onions; and if this is done early enough so that each separate onion gets well rooted, I feel sure they will stand the winter safely. In fact, all the above onions mentioned, winter well, or at least they do in our locality, without any protection and without any injury. We can also furnish white shallots at twice the price of the multipliers. I have never had an opportunity of trying them over winter, so I do not know whether they are as hardy in our locality as the multipliers or not. The multipliers and the shallots, I feel sure, are going to be an acquisition for extra nice onions, with but very little trouble.

BUSHEL BOXES.



The above cut shows our new-style *all-slatted bushel box*. We have two other styles; one has slatted bottom and sides with solid ends in three pieces called the *slatted bushel box*. The other has solid ends and close bottom and sides, and is bound with galvanized iron and called the *galvanized bound bushel box*. These boxes were devised by T. B. Terry for handling potatoes, for which purpose nothing could be handier. The potatoes are picked up into the boxes in the field and left in them till sold. Other crops, such as cucumbers, tomatoes, and apples are being handled in these same boxes. They are of such a size that two go crosswise in an ordinary wagon-box. Outside measure is 14½x16½x12½ deep, and they hold a bushel of potatoes level full so they can be piled one upon another. The above cut shows two *all-slatted* boxes nailed up, and a bundle of 15 alongside; 13 of the 15 are in the flat, packed inside the other two, and nails of the proper kinds are included. The *slatted* and *galvanized bound* boxes are put up in the same way, except there are only 12 in a package instead of 15. Each package weighs about 85 to 90 lbs.

PRICE LIST.

All-slatted bushel box, per crate of 15..... \$1 50
Slatted bushel box, per crate of 12..... 1 50
Galvanized bound bushel box, per crate of 12..... 2 10

In lots of ten crates, 5 per cent discount will be deducted. Price each, nailed, 15, 18, and 22 cents, respectively. A 20-page pamphlet called *Handling Farm Produce*, telling all about these boxes, mailed free on application.

Cash for Beeswax!

Will pay 23c per lb. cash, or 26c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 30c per lb., or 32c for *best selected wax*. *Old combs will not be accepted under any consideration.*

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Queens! Queens!

Now ready by return mail.

Bred in full colonies from the best honey-gathering strains in the country. All queens warranted purely mated, and safe arrival guaranteed. I have three distinct strains—golden yellow and dark leather-colored Italians, also Albinos.

Tested, each.....	\$1.50
Tested, per ¼ doz.....	7.50
Warranted, each.....	.75
Warranted, per ¼ doz.....	4.00
Warranted, per doz.....	7.50

Send for 44-page descriptive catalogue.

W. W. CARY, Colrain, Mass.

Golden Italian Queens

* * * By Return Mail.

Untested, 60 cts. Breeders, the very best, \$1.50. These are daughters of one of Doolittle's best breeders and are very yellow—most of them yellow lower than gold. Large and prolific. Safe delivery. Money order office, Decatur.

Cleveland Bros., Stamper, Newton Co., Miss.

Will you please mention GLEANINGS?

Burpee's Seed Annual for 1894 is well worth having. Tell to all who plant seeds
W. Atlee Burpee & Co., Philadelphia, Pa.

Imported Carniolans, bred in 1893, \$5 each; tested 1894 Carniolans in June, \$2; bred from imported queens producing only gray bees. Untested, May, \$1. Foreign orders, \$6, \$3, and \$2. Safe arrival at any postoffice in the world.
MRS. FRANK BENTON, Charlton Heights, Md.

Bees and Queens.

I am now prepared to fill all orders on short notice at the following low prices:

Untested queen.....	\$ 75
6 untested.....	4 00
1 1-frame nucleus.....	1 00
1 3-frame nucleus.....	2 50
Bees by the pound.....	75
1 to 5 colonies.....	6 00

Queens wanted with nucleus, add price.
E. A. HARRIS, No. Petersburg, Rems Co., N. Y.

Tested Queens,

Raised last fall from my choice Italian stock, yellow and unsurpassed workers,

75 cts.

Ready to ship now. Hybrids, 25 cts.
J. A. GREEN, Ottawa, Ill.

World's Fair Medal

Awarded my *Foundation*. Send for *free samples*. Dealers, write for wholesale prices. Root's new *Polished Sections* and other goods at his prices. *Free Illustrated Price List* of every thing needed in the apiary.
Bell Branch, Mich. **M. H. Hunt.**

TESTED ITALIAN QUEENS, \$1.00 each; selected tested, \$1.50; untested, 65 cts. Two-frame nucleus, with tested queen, \$2.00; with untested queen, \$1.50. Queens ready April 1.

Stewart & Cooper, Quebec, Tenn.

Golden Wyandottes.

No better birds in America. Cockerel, \$5.00. Trio, \$7.00. Eggs, \$2.00 per setting.
E. D. Keeney, Arcade, N. Y.

BBB'S!

If you keep **BEEES**, subscribe for the **Progressive Bee-keeper**, a journal devoted to Bees, Honey, and kindred industries. **50 cts. per year**. Sample copy, also a beautifully illustrated catalogue of Bee-keepers' supplies, **FREE**. Address
LEAHY MFG. CO., HIGGINSVILLE, MO.

Golden Italian Queens.

½ doz. untested queens.....	\$4 00
1 doz. untested queens.....	8 00
Fine queens for breeding purposes 3 00	

Sample of bees upon application. I can please you. Send a trial order.

J. F. MICHAEL,
German, Darke Co., O.

"TROT 'EM OUT!"

I challenge any one to show up a strain of bees that are superior to my *Golden Italians*. They have excelled all competitors by practical test. Gentle, industrious, good comb-builders, enter the sections readily, are not inclined to swarm, and are perfect beauties. Descriptive circular free. *Sections, \$2, per M.* Dovetailed hives way down.

CHAS. D. DUVALL, Spencerville, Md.

Italian Bees and Queens

Ready in May. Queens, \$1.00; bees by the lb., \$1.00; 1-frame nucleus, \$1.25; 2-frame, \$2.25. Also Barred P. R. eggs for setting, 15 for \$1.00.

Mrs. A. A. Simpson, Swarts, Pa.

STRONG, FULL COLONIES

of Pure Italian Bees, in Root's new Dovetailed hive, after June 1, only \$4.00 each.

N. A. KNAPP, Rochester, Lorain Co., O.

PATENT WIRED COMB FOUNDATION

Has No Sag in Brood-frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest, it is usually worked the quickest of any foundation made.

J. VAN DEUSEN & SONS,

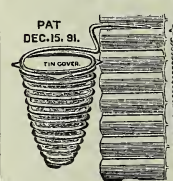
12tfdb Sole Manufacturers,
Sprout Brook, Montgomery Co., N. Y.



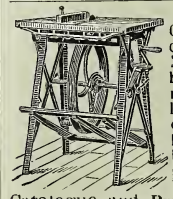
TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. **PAGE & KEITH,**
8tfdb New London, Wis.

Control Your Swarms, Requeen, &c.



Send 25c for samples of West's Patent Spiral wire Queen-Cage Protectors, and Pat. Spiral Queen Hatching and Introducing Cage, also best Bee-Escape, with circular explaining. 12 Cell-protectors, 60c; 100, \$3. 12 Cages, \$1.00; 100, \$5, by mail. Circular free. Address N. D. WEST, Middleburgh, Scho. Co., N. Y. Sold also by all the leading supply-dealers.



Read what J. L. PARENT, of CHARLTON, N. Y., says: "We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes, and a great deal of other work. This winter we have doubled the amount of bee-hives, etc., to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT.
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